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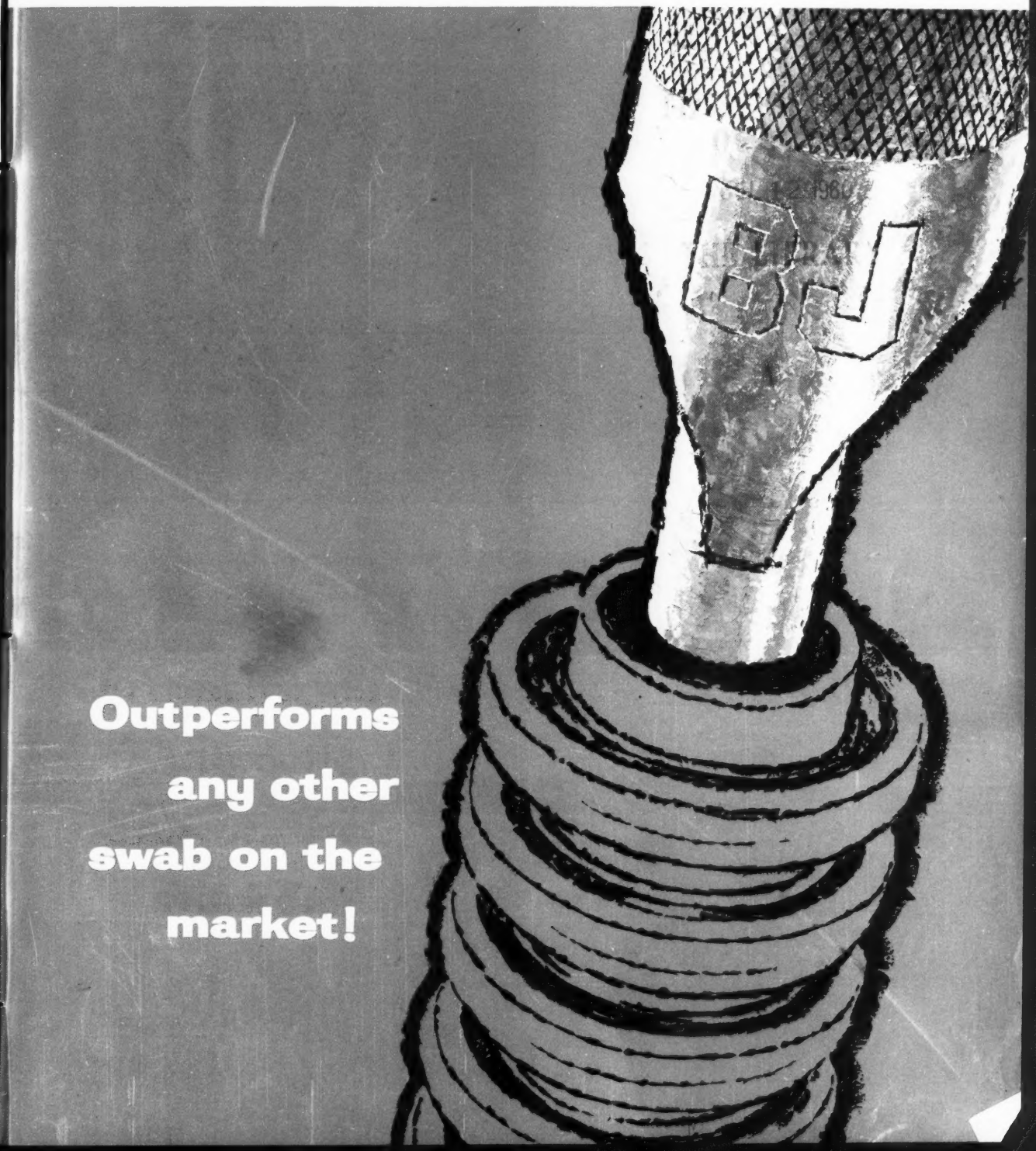

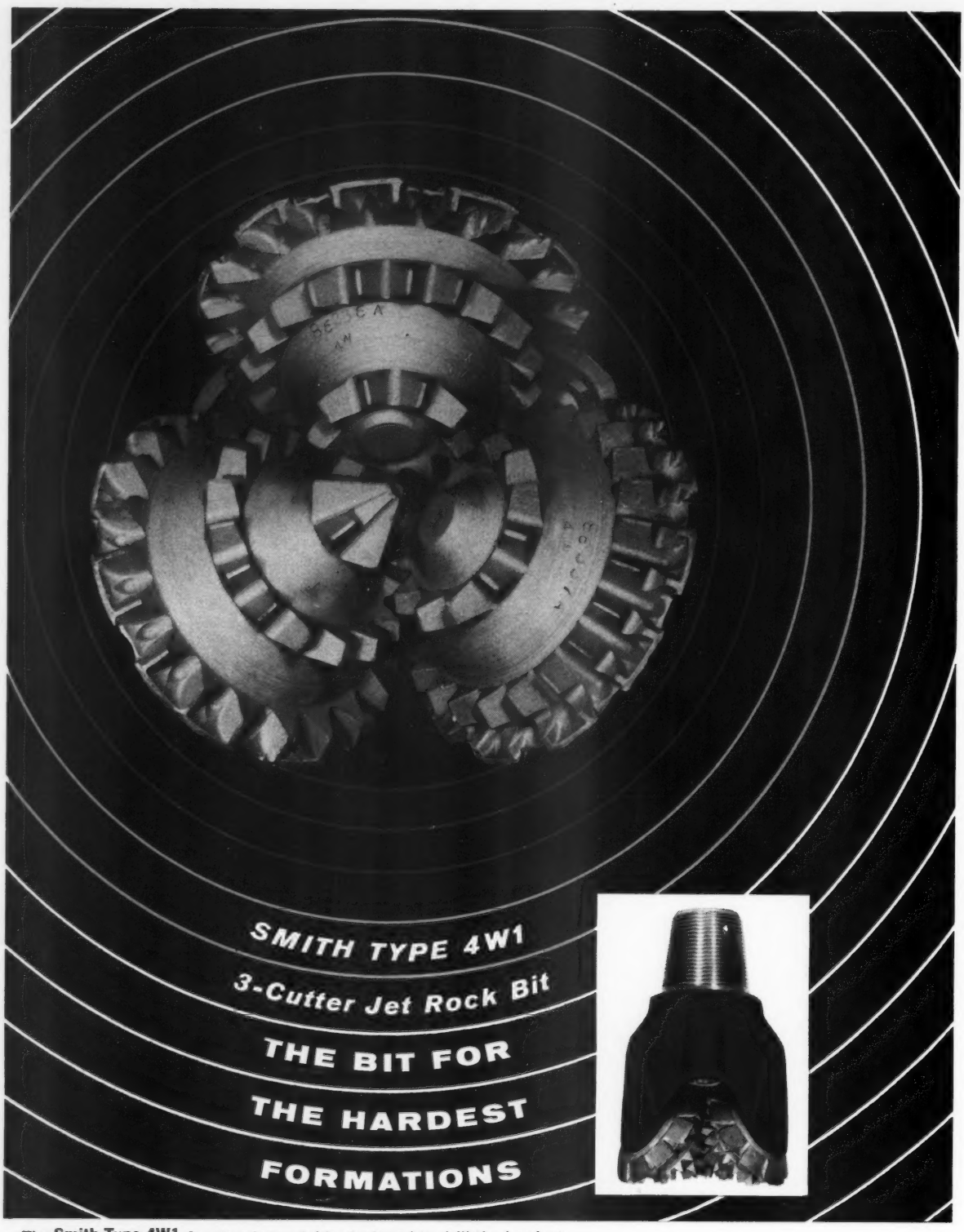

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A Banker Comments on the Outlook for California Drilling Contractors

By CHARLES R. DODSON Vice President, California Bank

"Hal" Bentson and "Stu" Hagestad, members and guests of the California chapter of A.A.O.D.C., I think it appropriate to say that my secretary left "no stone unturned" in answering Hal's request for my personal background and business experience. I assure you that given the chance to edit what you just heard, it would have been far less comprehensive. Anyway, many thanks for such a nice introduction.

As all of you are sadly aware, it has become fashionable for people in and out of the petroleum industry to "cry the blues" and talk about the perpetual "oil recession." Some of the reasons for this attitude are valid; others may not be. Tonight I appreciate the opportunity to discuss a few aspects of the subject that are of interest to drilling contractors and their immediate prospects for additional work.

The title of this talk includes "Outlook." This implies evaluation of future prospects for business and means forecasting or predicting trends which we readily admit is not an exact procedure. However, there is no substitute method for estimating future business, so forecasting is, and must always be, an essential management tool. Unfortunately, forecasting in the oil business, particularly some of its separate phases, has been notoriously "off base" in recent years; for example, the late 1959 predictions of drilling rigs operating, wells to be drilled in 1960, or "allowable days" in Texas. The reasons are probably numerous, but one reason is that it is almost impossible to evaluate or anticipate new factors. Today, as well as in the future, we have to expect more factors to influence the oil business so the problem is highly complex.

With those few words as a warning, let us see how you are doing. The picture would appear at first glance to be glum; Munger reports that 69 contractors owning 213 rigs had only 116 operating on May 27. A statistician might say that California drilling is 45 per cent shut down.

I cannot foresee what this means on a long range basis, but for the first four months of 1960, we have averaged 72 oil well completions per month compared to an average of 85 per month in 1958 and 1959. The 1957 average was 142. The present trend would mean 864 completions in 1960, or 134, (13.5%) less than the 988 in 1959.

The first question is will the rate go up or down for the remainder of 1960? This should depend on the dominant influences of a timely nature such as crude prices, markets and individual requirements as to lease commitments, tax position, budget allowances, and future needs, and possibly, company policy. We cannot explore the specific or individual situations, but on an overall basis certain factors can be examined. One, there has been a steadily increasing demand for all oils in California to a current above 1,400,000 B/D. Two, the demand has exceeded new supply throughout 1960 so that stocks except gasoline are substantially below the 1959 levels. Three, the oil well completions rate is off from 1959. Four, California crude oil production has been declining from about 1,000,000 B/D in 1953 to a current rate of 835,000 B/D, or a loss of 165,000 B/D. Five, gas supply from out of state pipelines has increased enormously. Six, there have been technological and equipment changes in the refineries as well as in demand for certain oils that reduce crude requirements. Seven, failure to find new reserves that would justify development. And eighth, the irresistible and inevitable decline in production rate of wells and reservoirs. Factors 1, 2, 3, 4 and 8 should encourage drilling; whereas, important eco-

TABLE A

Year	Supply Petroleum B/D	Crude Oil Production B/D	Decline** Avg. Rate %/Yr.	Oil Well Completions Totals	Oil Well Completions Wells/Mo.
1956	1,288,800	958,350	14.2	1780	148
1957	1,343,800	928,971	13.8	1709	142.5
1958	1,261,100	859,375*	12.5	984	84
1959	1,330,800	841,528*	11.7	988	85
1960 (4 mos.)		831,000	10.9	289	72
April, 1960	1,404,500	834,678			

*Shut in production averaged about 30,000 B/D in 1958 and 10,000 in 1959.

**Decline estimated for 12-month period for wells producing at start of period and adjusted for shut in production.

nomic factors 5, 6, & 7 are probably the main reasons for the decline.

It is interesting to observe in the following data from the Annual Reviews by the C.C.C.O.P., the extent of the downward trend in oil production and new oil wells. However, the overall decline rate shows an improved trend indicating better results per well.

As seen in Table A, production from oil wells completed through December, 1959, is expected to decline about 11 per cent in 1960, which would mean a drop from the January average of 829,645 B/D to 738,000 B/D in December, or a loss of about 91,000 B/D to be made up by other sources.

TABLE B

New Oil Well Performance

Year	Production: Production Avg. Rate B/D	Well Avg/ Well B/D/ Well	Percent of State Total %
1956	115,000	66.4	11.2
1957	88,800	51.8	9.9
1958	73,200	74.3	8.6
1959	64,200	65.0	7.5
1960 estimate	60,000	—	

Table B shows that the trend in new oil production would add only 60,000 B/D, giving a December average of 798,000 B/D, or loss during the year of 32,000 B/D and yearly average of 814,000 B/D, compared to 841,500 B/D for 1959. It is noted also in Table B, first, that the average production from new oil wells has held fairly constant during the past four years, indicating selectivity in locations and better completion practices; but second, that the percentage contribution to the total average production has steadily declined from 11.2% in 1956 to 7.5% in 1959.

In terms of new oil wells, the expected 60,000 B/D requires 925 completions based on 65 B/D/well, or 636 wells during the last eight months. This means an average of 80 wells/month compared to 72 during the first four months and would in itself be a "shot in the arm" to drilling.

Before carrying the foregoing further, suppose we see what happens to the "supply gap" during the next six months. If it is assumed that crude oil demand will approach 1,350,000 B/D in December and the following supply will be maintained, then there will be a deficiency of 164,000 B/D:

Crude oil imports	263,000 B/D
Four Corners Pipeline	75,000
Canadian Overland	50,000
District V	798,000
Total	1,186,000 B/D

This shortage will have to be made up from stocks; or if not, from East of the Rockies by tankers and new oil wells, provided of course, foreign imports are not increased by special order. This is an enormous shortage, and it appears to me that it would offer a real incentive for better prices and, consequently, drilling more oil wells. At the present average production rate for new wells and other factors, it would not seem reasonable to expect more than 25 per cent of the shortage to come from this source. If 25 per cent or 40,000 B/D were made up by new wells, it would mean around 600 additional wells above the current trend or a total of 1464 wells for 1960; comparable but actually below the totals for 1956 and 1957. Although this volume of drilling is feasible, it would still leave 125,000 B/D to be made up from other supply.

It is probable that the U. S. Bureau of Mines arrived at somewhat similar results when they recently authorized an import increase of 43,000 B/D to 263,303 B/D for District V for the July—December, 1960, period.

In summary, we know the forecast on certain aspects will be fairly close to actual performance but some factors, such as new oil wells completed may be "way off base." The important conclusion is that there is a demand for new oil, and I believe adequate reasons to step up drilling activity during the second half of 1960. These reasons must be economic because the "built in" compulsions such as lease requirements and tax problems are probably satisfied at the current rates of drilling. Economically, the oil situation is stronger, prices have moved up in some instances, practically all shut in wells are back on production meaning improved markets, Canadian overland imports to District V are stabilized, stocks are healthier or near working levels, and we have rigid control of foreign imports. Further, I believe it would be a good policy for operators to not let the gap between local supply and demand widen too rapidly. Undoubtedly, this situation is a matter of concern to operators. Recently Howard Vesper, President, Standard Oil Company of California, Western Operations, Inc., stated that the local industry has excellent prospects for growth but will face among other factors "competitive pricing" and increased flow of natural gas into California which will present problems solvable not by government regulation but by alert, flexible and aggressive management.

Actually, the California petroleum situation is anomalous. There is a rapidly growing economy, with a huge demand for petroleum products and a declining local supply which would normally indicate firm prices but due to equally huge outside sources of supply and rapid growth in natural gas

Long Beach Oil Development's Well No. Z-116 being put down by Camay Drilling Company in Long Beach Harbor Parcel "A." Left to right, rear: Rudy Tittle, driller; Jack Chance, derrick; W. F. Craig, lead tong; H. C. Johnson, racker; G. S. Brown, cathead. Left to right, front: Bill Barger, Camay pusher; Steve Crowley, LBOD pusher, and Harry Robinson, Parsons Survey Co.

supply, the industry is in the doldrums.

I am convinced that in spite of reduced drilling activity, the contractors' problems with "down time," and servicing debt that the drilling contractors by improved techniques and management will survive and actually show a profit.

Shell Oil Takes Position On Offshore Bidding

California's best approach to the leasing of new offshore lands is through bonus bidding, Shell Oil Company advocated at a recent hearing of the State Lands Commission.

Durland Clark, Area Land Agent for Shell, pointed out that bonus bidding gives maximum incentive to skillful exploration work, hence will result in the fullest development of the state's offshore oil resources.

Bonus bidding is more profitable to the state, also, because it would give California substantial income whether or not any oil is recovered. It also encourages maximum recovery of oil, he said.

Royalty bidding on the other hand, Clark said, results in no income to the state unless oil is found and produced. Also, royalty bids discourage full recovery of the oil by forcing early abandonment when operating costs boosted by high royalties exceed revenues.

Shell's testimony was presented at a hearing called by the State Lands Commission to discuss the leasing of offshore lands north of Santa Barbara between Point Conception and Goleta Point. The company had previously asked the Commission to nominate these lands for competitive bidding.

Also advocating bonus bidding at the hearing were Standard Oil Company of California, the Humble Oil Company, Phillips Petroleum Company, and Ed Pauley. The sole company recommending royalty bidding was Richfield Oil Corporation.

At the hearing Clark emphasized the importance of exploring the state's offshore lands by referring to surveys which show that California oil production will decline to approximately 300,000 barrels a day by 1975 unless new fields are discovered.

This would leave the state with an estimated deficit at that time of one and a half million barrels of oil a day and cost Californians a billion and a half dollars a year for imported oil.

Von Hagen Urges Crude Price Increase

California crude oil prices must be restored at least part way to 1957 levels to stimulate the development of required supplies, Richard R. Von Hagen, president of Oil Producers Agency of California, said in a statement issued recently.

"This is particularly true in the heavier grades of crude which are the principal supply source for residual fuel," he said. "Inventories of residual fuel, used by industry and for the generation of electricity, are less than half what they were a year and a half ago. At approximately 14,000,000 barrels now, they are the lowest they have been since May, 1957.

"Lower production of heavy crudes, caused by these reduced prices and lack of market, is largely responsible for this reduction in stocks.

"The price of a representative California heavy crude was cut 91 cents per barrel during 1958 and 1959. Light crudes were cut 35 cents. The result of these price cuts is that development activity in California oilfields—upon which maintenance of supply depends—declined sharply.

"Industry experience proves that the price of crude oil has a direct bearing upon supply. Increases totaling 93 cents per barrel during 1953-57 resulted in an increase of approximately 50,000 barrels daily in heavy crude production. Conversely, decreases of 91 cents per barrel in 1958-59 resulted in a decrease of about 40,000 barrels daily," Mr. Von Hagen said.

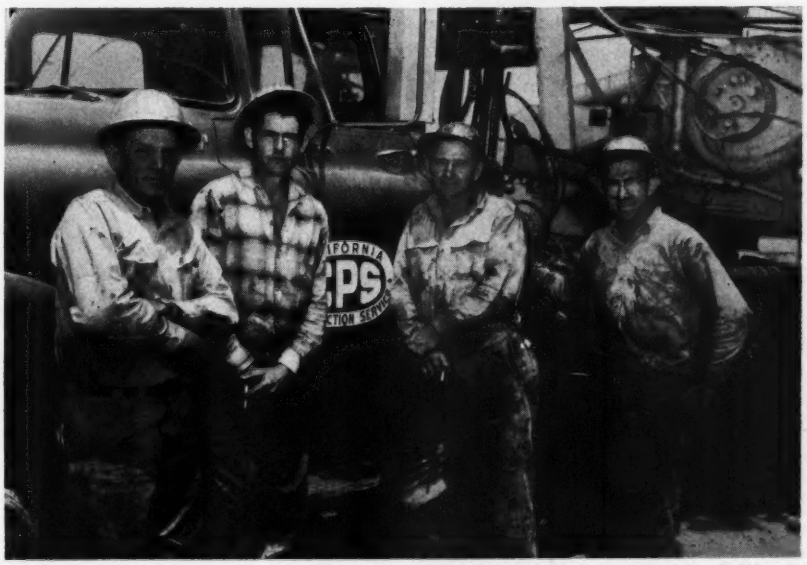
"The harmful effect of crude price cuts in 1958-59 was greater than it appears on the surface," Mr. Von Hagen continued, "because they occurred at a time when all the producers' operating costs were increasing. Purchasing companies said, however, that oversupply created competitive conditions which made the cuts necessary.

"Now that additional supply is needed and must come from California crudes, price increases necessary to bring out that supply should be forthcoming. An upward adjustment of as much as 91 cents per barrel would merely restore — not increase — the prices of 1957. It would not compensate for the cost increases that have occurred in the meantime."

Nordon Corp., Ltd., Gains New Acquisition in Fresno County

Nordon Corporation, Ltd., a subsidiary of Aeco Corporation, has acquired approximately 5,000 acres of potential oil and gas property in Fresno County, Calif., and plans to drill a wildcat well in the immediate future, it was announced by Harry C. Long, president.

The property is located on the Burrel Ranch 18 miles southwest of Fresno, Calif., in Township 16.



The Long Beach Harbor area is the location of Well No. 228 being serviced by California Production Service for Producing Properties, Inc. Left to right: D. Burford, head well puller; R. J. Shafer, derrick; E. Coffman and Guy Morgan, floormen.

Lightweight Steel Blowout Preventers . . .
IMPORTANT NEW SAVINGS FOR TODAY'S COST-CONSCIOUS OPERATORS

The petroleum industry, faced with continually rising drilling and development costs, is carefully checking out all new advancements that offer savings at any level in the overall development program, whether they are savings in initial planning and purchasing, savings in transportation and handling costs, or savings in actual drilling and completion operations. Recent development of a complete airborne drilling rig for an exploration program in South America has created considerable interest among leading operators in domestic fields because some of the advancements engineered for this program are as readily adaptable to domestic operations as to overseas programs, making possible important new savings for cost-conscious operators.

A good example is the new series of lightweight blowout preventers selected initially for the airborne operations but now also available for operators throughout the oil industry. These new preventers weigh approximately *half* as much as comparable equipment now in use, yet sacrifice none of the pressure handling characteristics nor the operating features of the most advanced blowout preventers currently popular.

These preventers, known as Type *"LWS"* (for Light Weight Steel) Blowout Preventers, have been under development by Shaffer Tool Works for several years. In fact, an initial series of *"LWS"* Preventers was introduced to the oil industry about a year ago but in their initial designs (API 6" and 8"—Series 900) they were used primarily for blowout protection on production and well re-work applications where the higher pressure ratings of full-scale drilling operations are not required.

Backed By Long-Range Development Program

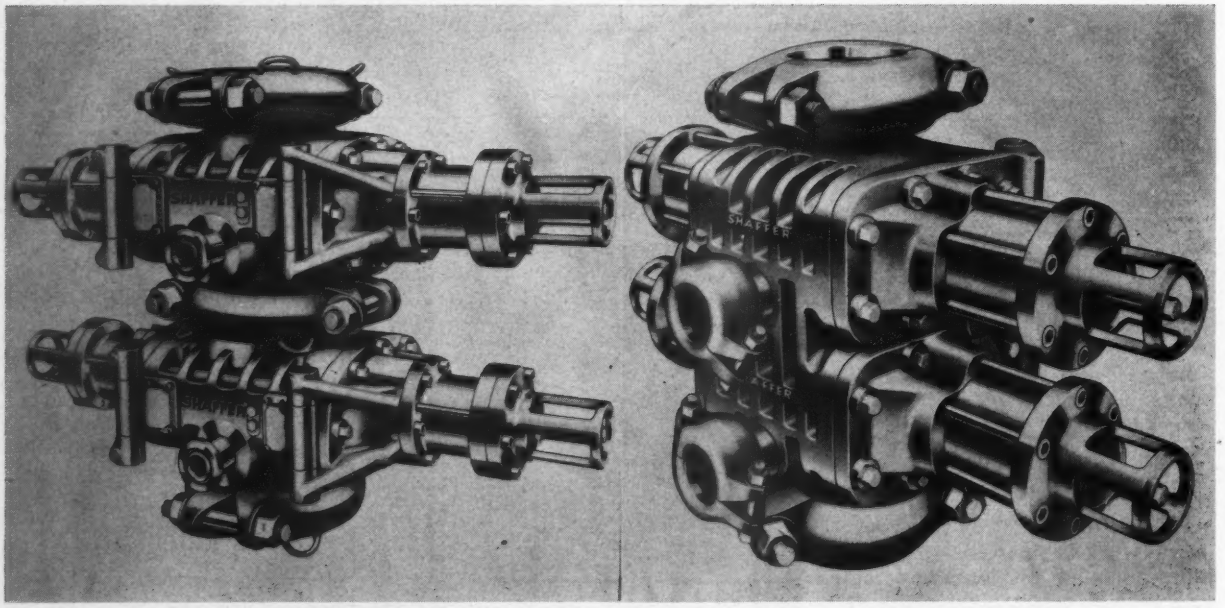
However, research work continued on these units with the objective of perfecting similar lightweight equipment with pressure-handling ratings equal to those required for a wide range of general drilling applications, and the first of this new *"LWS"* series became available at the time equipment for the South American "airborne" program was being finalized. Engineers on the program were quick to recognize the significance of the new lightweight units and made Type *"LWS"* Blowout Preventers an integral part of their operations.

One of the design criteria on the airborne program was that equipment should be capable of drilling 9⅞" hole to 12,000 feet with 4½" drill pipe, and of running 7⅝" casing to the same depth. Further, the equipment should be capable of drilling 6⅛" hole to 15,000 feet, using a combination string of 4" and 3½" drill pipe, and of running a 15,000 foot string of 4½" casing.

Working Pressure Ratings to 5,000 PSI

Operations of this nature call for blowout preventers in the API Series 1500 range (*Working* Pressures of 5,000 PSI, *Test* Pressures of 10,000 PSI), with a vertical bore capable of passing 7-1/16" diameters or smaller. The new 6" Series 1500 Type *"LWS"* Hydraulic Blowout Preventer then in development was the ideal solution to these "airborne" requirements, so an initial unit was built and tested, using a "Double" Gate arrangement—that is, *two* ram compartments unitized into *one* compact, space-saving body, with one compartment equipped with rams for complete shut-off of open hole and the other compartment equipped with rams for closing off around the drill pipe, thus providing full blowout protection whether pipe is in or out of the hole.

By employing unique "deep-rib"



Rear View of the new 10" Series 900 Shaffer Type "LWS" Hydraulic Blowout Preventers as supplied to "airborne" operations. Here two units are clamped together to provide a "Double" Gate, but same series is also available in "unitized" Double Gate design if preferred. All "LWS" units are available in a wide choice of outlets, and with flanged, studded or clamp ring connections.

Front View of the new 6" Series 1500 Shaffer Type "LWS" Hydraulic Double Blowout Preventer—the unit selected for recent "airborne" drilling program. Note "deep-rib" construction that cuts weight 55% with no loss in pressure-handling capabilities, no sacrifice in operating advancements.

casting techniques that give high strength without unnecessary bulk, the new 6" Series 1500 Type *"LWS" Double* unit was held to an overall weight of just 2610 pounds, as compared with the 5700 pound weight of such equipment heretofore available. That is a 55% saving in weight—without any sacrifices in performance, dependability or operating convenience!

11" Bore "LWS" Preventer

Concurrently, another "LWS" Preventer was produced for blowout protection during the big-hole, shallow depth phases of the "airborne" program—a 10" Series 900 unit having a vertical bore of 11" and a *Working* Pressure of 3,000 PSI (6,000 PSI *Test* Pressure). This Preventer, using *"LWS"* deep-rib construction techniques, scaled out at only 2100 pounds (as compared to the 4000 pound weight of other comparable units). That represents a saving of some 46% in weight.

Although this latter unit was supplied to the "airborne" program in an arrangement of two Single preventers clamped together to provide the dual-purpose protection of a "Double" unit, this same 10" Series 900 Type *"LWS"* equipment can also be supplied in a "unitized" Double gate design where additional savings in vertical height dimensions are desired. Here again, weight of the "LWS" Double unit is roughly *half* that of comparable equipment!

New Era in Blowout Preventers

With such major savings in weight now possible, it is probable that an entirely new era in blowout preventer design is being established. Now, instead of requiring a three-ton truck to transport a 5700 pound blowout preventer to a rig-site, the job can be done with "pick-up" truck of half the size. Instead of manhandling almost three tons around during rigging-up, tearing-out and storage operations, it is now possible to do the job faster and more safely, with less manpower, because the new weight of comparable equipment has been cut to a little over a ton. These are savings that quickly mount up, particularly on development programs that are inconvenient to established sources of supply. For example, one operator with several rigs running in the Los Angeles Basin and San Joaquin areas estimates that, by switching to the new Type *"LWS"* Preventers, he will make sufficient savings in transportation costs alone to completely pay off his Preventers in less than two years. Actual savings, of course, will vary from one program to the next, depending upon rigsite locations, whether flat or hillside, close-in or remote. But any time a 50% saving in weight can be effected in such heavy-duty equipment as blowout preventers — profit minded operators without loss in safety or operating advantages—will find such a saving well worth investigating. And since *"LWS"* Preventers "came of age" in the Bolivian airborne operations, major domestic operators are taking a long look at the cost-cutting advantages of the new lightweight steel preventers in their local drilling and development programs.

SPECIFICATIONS ON POPULAR SIZES OF TYPE "LWS" BLOWOUT PREVENTERS

API Rating	Working Pressure	Test Pressure	Vertical Bore	Approximate Weights Single	Approximate Weights Double	Approx. Savings in Wgt.*
6" Series 900	3,000 PSI	6,000 PSI	7-1/16"	780 lbs.	1,420 lbs.	67%
6" Series 1500	5,000 PSI	10,000 PSI	7-1/16"	1410 lbs.	2,610 lbs.	55%
8" Series 900	3,000 PSI	6,000 PSI	9"	1100 lbs.	1,950 lbs.	64%
10" Series 900	3,000 PSI	6,000 PSI	11"	2100 lbs.	3,850 lbs.	46%

*As compared with comparable equipment now in use.
Information on larger bore sizes is available.

New 20,000 Barrel Per Day Refinery For Saudi Arabia

Contracts for the design, construction, and operation of a 20,000 barrel per day petroleum refinery have been signed between the Saudi Arabian Refining Company (SARCO) and The Ralph M. Parsons Company, engineers-constructors of Los Angeles, California. Estimated cost of the plant is $20,000,000. The site is a 700 acre plot on the coast southwest of Jeddah.

According to John Boles, Parsons' project sponsor, work will begin immediately and the refinery will be on stream before the end of 1962. Principal components of the refinery include crude and vacuum distillation units, asphalt plant, desulfurizers, catalytic reformers, and an Ethyl fluid unit. Refined products will be gasoline for autos and aircraft, jet fuel, kerosene, diesel fuel, butane and propane, fuel oil, and bunkering oil. Crude oil will be shipped to the refinery from the Eastern Province of Arabia.

Oil Development to Be Voted on by Santa Monica

Leonard C. Stevens, vice president, Los Angeles Exploration and Producing Division, Mobil Oil Company, recently expressed the company's gratification that a special election has been called by the Santa Monica City Council to decide whether or not the petroleum resources underlying the city's tide and submerged lands should be developed.

"It would be most gratifying to us if Santa Monica should at some time have a beautiful marina and a well-developed beach front area as a result of a joint enterprise between Mobil Oil Company and the City of Santa Monica."

Second Catalytic Unit On Steam at Texaco

A second catalytic reforming unit is scheduled to go on stream this month at Texaco Inc.'s 60,000 barrel-a-day Los Angeles Plant in Wilmington, it was announced by W. B. Logan, manager of the Company's Pacific Coast Refining Division.

The new unit, supplementing a similar one already in operation at the Texaco refinery, is in three sections grouped on a common plot. These include a 12,000 barrel-a-day hydrotreater, a 12,000 barrel-a-day low pressure platforming unit and a 26,000 barrel-a-day fractionation unit. All of these units are designed to improve the quality and octane rating of Texaco gasolines, as well as to increase the refinery's output, Mr. Logan said.

Construction was started on this multi-million dollar expansion program in May, 1959.

Petroleum LORE and LINGO

By RICHARD SNEDDON

Prelude

The history of the oil industry is replete with inexplicable but interesting episodes and events that merely create a mild flurry of excitement at the time of their occurrence and then are quickly forgotten. Petroleum people in the main are an unemotional lot and are not given to outward display of their inward feelings. Perhaps it is because their daily life is so exciting that the outre things that happen along the way don't attract much attention and don't hold that little long. In any case some very unusual developments have taken place in the oil patch over the years. They have mostly become lost in the haze of time but many are still of record and are available to anyone who is sufficiently anxious to search the archives. By the same token, for one who is sufficiently observant there is in the daily routine of oil operation a great variety of circumstance and environment that should provide a rich field for hunters of the Ripleyesque species of news item. A nest of rattle snakes in a boiler house, a centipede in the boarding house breadbox, and a miscellany of organisms from bacteria to camels play their respective parts in the colorful existence of the homo petroeleumensis but he goes his way unconcerned, undisturbed, and sometimes lamentably unobservant.

Of Psychical Phenomena

On the highways and byways of the extremely matter-of-fact petroleum industry there would appear to be little likelihood of anything happening in that vague never-never land of the supernatural that the late Stephen Leacock would probably have termed "behind the beyond." Everything in the oil business is so completely controlled by science and logical that psychical phenomena just don't seem to have a place in such a rationalistic scheme. Yet there occasionally happens some weird bit of actuality that doesn't fit the normal pattern, and for the minute petroleum people are startled. Only for the minute, however, it takes something pretty terrific to divert the inhabitants of the derrick groves from the more explicable aspects of their exciting world.

The Salmon Cycle

Take this little tale of the sea, for example, that marked one of the most amazing series of coincidences in nautical history: Everyone is familiar with the life cycle of the salmon that is spawned in the upper reaches of some inland stream, swims to the open sea, lives its rigorous life, and finally fights its way back upstream to spawn and die in the very spot from which it started. It is a thrilling story of a wonderful natural process at which the most blase naturalist never ceases to be astonished. I have watched the salmon literally tear themselves to pieces as they leapt time and time again up the jagged face of a rapid rise in the Capilano River in British Columbia, and eventually make it just when it looked as if they must be too hurt and exhausted to even make another attempt.

Tragedy at Sea

Similar to the life cycle of the salmon in many respects is the story of two oil tankers. In the year 1914 there emerged from the Bethlehem Shipyards in San Francisco, these two vessels, the Lyman Stewart and the Frank H. Buck. They were sister ships in every sense of the word. Built to exactly the same specifications, they were identical in every detail, and they came off the ways to ply their respective routes in the same business, petroleum transportation. Without mishap, at least of major consequence, they engaged successfully in this trade until October 7, 1922, when the Lyman Stewart, owned by Union Oil Company of California, collided with the S.S. Walter A. Luckenbach off Point Lobos, San Francisco, and eventually piled up just below the Cliffhouse at Mile Rock. Members of the crew were removed safely but the ship was a complete loss. Thus the first of the sisters returned to her home port to perish in the very waters from which she had so proudly set out just eight years before.

The Coincidence

The Frank H. Buck, owned by The Associated Oil Company (now Tidewater Oil Company) continued serenely on her way, carrying petroleum and its products to and from Pacific Coast ports, but occasionally venturing on more extended trips to Honolulu, South America, and the East Coast. With little interruption her scheduled runs were completed until March 3, 1937, when she collided with the S.S. President Coolidge, strangely enough almost at the identical spot where her sister ship met disaster some fifteen years earlier. The crew escaped to the lifeboats and an effort was made to tow the vessel to port. It was of no avail, however, and she finally grounded, broke amidships, and settled down within a few yards of the Lyman Stewart. There they still lie, these twin sisters, at least all that remains of them. Built in the same year, in the same yard, and to the same specifications, they went their diverse ways, one for eight years, the other for twenty-three, each to meet an exactly similar fate at the same place, and both at last to lie side by side in a watery plot in the very shadow of their birthplace.

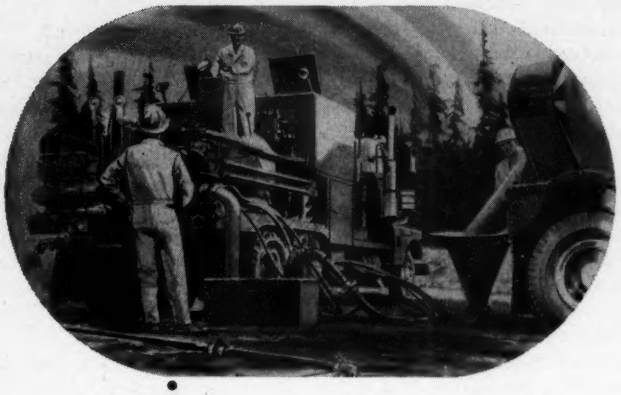
When I was a boy at school I was captivated by Robert Browning's poem, "The Pied Piper Of Hamelin," or as we used to call it in secret, "The Pie Eyed Piper of Hamelin." The story of the rat invasion was well told and I could almost see the swarms as—

Of Mice and Men

"They fought the dogs and killed
the cats
And bit the babies in their cradles

TWO NEW HALLIBURTON FLOAT VALVES

DESIGNED for CEMENTING ECONOMY



SAVE ON INITIAL COST

SAVE TIME IN RUNNING CASING

SAVE EXCESSIVE DERRICK STRAIN

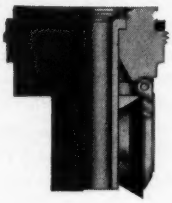
SAVE ON DRILL-OUT TIME

INSERT FLOAT VALVE

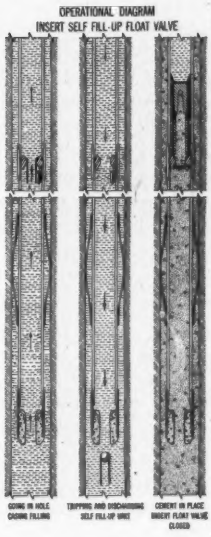
This new Halliburton tool is low in cost, simple in design, and efficient in operation. Installed by a short thread inside the casing coupling and sealed between the casing ends, no length is added to the string. Eliminates two threaded connections for each valve used in the string.

Designed for use in wells where a medium range of differential pressures exist, the assembly consists of a readily-drillable cast aluminum body, flapper valve and spring and two rubber sealing rings. The stout spring helps hold the valve closed during floating-in and after cementing is completed. This tool is excellent for use with a "DV" Multiple Stage Cementer.

INSERT SELF FILL-UP FLOAT VALVE



A combination of the new Insert Float Valve described above and a simple self fill-up assembly incorporating a plastic orifice tube, the Insert Self Fill-Up Valve was designed for use in filling casing in areas where field conditions sometimes interferred with other fill-up devices. See illustration. A pre-selected, special size orifice tube holds the valve open allowing the casing to fill going in the hole. When the casing is within a few joints off bottom, a weighted plastic ball (furnished) is dropped and seats on the valve. After reaching casing point, pressure is increased to break the orifice out of its seat. The plastic flow tube and ball drop through the guide nose to the bottom. The valve then closes and acts to help prevent reverse circulation during and after the cementing operation.



ASK your local Halliburton Representative about these new valves. He will help you select the proper unit to match your well's requirements.

HALLIBURTON

CEMENTING SERVICES

HALLIBURTON OIL WELL CEMENTING COMPANY • DUNCAN, OKLAHOMA

"TOOLS AND EQUIPMENT TO MATCH THE JOB"

And ate the cheeses out of the vats
And licked the soup from the cooks
own ladles."

This old classic always comes to mind when I think of the mouse epidemic that hit Taft in 1927 and came within an ace of wiping out the village. It could happen, you know. The town of Cosa in Italy was completely destroyed by mice! Also just a short time ago we heard a missionary on TV appealing for help for the people of Assam. It appears that their main item of diet over there is bamboo shoots, but every fifty years the bamboo trees blossom and this attracts swarms of mice that propagate terrifically. It causes such an increase in the mouse population, indeed, that they eat up all the shoots. The result is that the people have a serious famine every fifty years and this was the fiftieth year, hence the appeal.

The Taft Invasion

Getting back to the business on hand, just north of Taft lies a feeble body of water known as Buena Vista Lake. This is one of these "now you see it and now you don't" affairs which when the dry season is unduly prolonged completely disappears. That is what happened for two or three years prior to 1927. The lake waters had entirely evaporated, and nearby farmers took advantage of the fact to plant the lakebed in grain. This brought mice of many varieties into the area and they multiplied like mad, until the rains came again and drove them out in all directions. They swarmed into Taft by the millions, invading homes, stores, warehouses, and doghouses in their frantic search for food. Oil operators dug trenches around the rigs and poured poisoned grain in them. In the morning they disposed of the dead ones in wheel barrow loads, and it didn't seem to make any difference.

The Multiplication System

Still they came, especially to the leases that had horses, and stables, and feed. It was hot in Taft at the time and people were mostly sleeping in the nude. The mice ran over their bodies in the night time so that between the heat and the ubiquitous rodents life was pretty miserable. The highways were literally carpeted with mice pelts, the stench was almost insufferable, and it seemed as if the populace would be overwhelmed. Meantime, however, an extermination expert from Washington, peculiarly enough named Piper but no relation to the Pie Eyed Pipers of Hamelin, had been hard at work and was finally making some headway against the plundering horde. They had reached the outskirts of Bakersfield and were everywhere in between before the efforts of the Government agent began to take noticeable effect. Thereafter progress was fast and it wasn't long until Taft was back to normal. Just by way of some junior mathematics, it is said that a pair of married mice will bear 4 or 5 young every 20 days. Assuming that they live in an agreeable environment like the grain covered flats of Buena Vista Lake and there is no excessive incidence of death, this means that this one pair could conceivably be the progenitors of well over 20 million offspring in a single year. We should be grateful, thus, that nature provided the necessary cats, hawks, and other agents and agencies that hold the mouse kingdom in check.

Speaking of Fires

In 1925, Union Oil Company was the victim of a coincidence of a particularly rare type. Its two large tank farms, over 200 miles apart, one at Brea and one at San Luis Obispo, were both set afire on the same day by lightning. Before the fires could be extinguished some twenty million barrels of oil had been consumed; the Brea refinery was burned to the ground; and millions of barrels of storage had been destroyed. I remember seeing relics of the Brea holocaust consisting of pieces of glass, metal, and various odds and ends that had been fused into a solid entity, resembling some huge oversize gem. The heat engendered by the burning oil was tremendous, tanks became red hot, crumpled, and collapsed, and spillovers threatened the entire countryside. However, the fire was well contained by the gallant fighting crews and damage to surrounding areas was very light. A peculiar thing about this frightening affair was that in the middle of the inferno were several large gasoline tanks that simply ignited at the vents and burned like well-behaved oil lamps, while flaming crude oils cascaded over the sides of their containers or belched in gusts of hideous sound at the skies. I didn't see the San Luis Obispo fire but later heard strange stories of the cyclonic currents that were set up. I was told that one half of a small building was whisked away into the night by a whirlwind and an operator sitting in the other half wasn't even shaken up.

Reservoirs are Consumed

There were several large earthen reservoirs with wooden tops at the Brea tank farm and these, needless to say, were practically ruined. When it was all over the tops were gone and most of the heavy crude oil they contained had burned off but there was still a small lake of viscous black goo left in each. I had always thought that game birds were pretty astute members of the ornithological kingdom but, believe it or not, from then on, ducks by the dozen swooped down into the oil and perished miserably. As soon as they could get at it, the construction crews covered the reservoirs over with chicken wire in order to save the poor deluded ducks further embarrassment. Even that was of no avail, they came down just the same as ever, and broke their pretty necks on the chicken wire. It wasn't, indeed, until the reservoirs were completely covered over that the birds stopped their kamikaze tactics. All of which recalls that a member of Cy Bell's duck club up in Bakersfield once invited an English visitor to go up with him on a shoot, and he accepted, although he admitted he had never hunted before. Next morning early when they crept down to the blind there were several ducks swimming on the pond. The Englishman brought his gun up several times and sighted it but made no attempt to shoot. His host remarked, "Say, you're a mighty good sport waiting for these birds to rise." "Rise, your hat," said the Englishman, "I'm waiting for the bounders to stop swimming."

Animal Kibitzers

Incidentally, down the years, sportsmen have been greatly concerned over the intrusion of oil operations into those particular areas that are the normal haunts of game animals, birds, and fish, but there was really no need for them to get excited. The so-called wild animals are the world's greatest kibitzers. I have already told how the moose came down to watch the oil opera-

tors at work in Anchorage; the bighorn mountain sheep are all agog over the oil excitement on the Desert Game Range in Nevada; and fish by the thousands have come in to see what these off-shore drilling guys are up to. The crew at the General Petroleum — Great Basins No. 1 well on the Alaska peninsula found a beaver trapped in the mud tank and after they helped him clean up a bit he chose to stay with them. However, he became so nosey that he was in imminent danger of being hurt and they virtually had to chase him off the rig. Experience would indicate pretty emphatically that animals are not at all frightened by the fuss and ado at the drill site. As a matter of fact, they love the excitement, and the incidence of heart trouble among the piscatorial excavation watchers is practically nil.

The Smart Birds

Many years ago when I took my first automobile trip along the pole line road from San Luis Obispo to Coalinga, I was amused to note that in the thin strip of shadow cast by each pole, a row of sparrows were perched comfortably while I was riding along in the broiling heat of the desert sun risking an apoplectic stroke; verifying Noel Coward's contention that only "mad dogs and Englishmen go out in the midday sun;" and proving once again that birds are really more sensible than people. And harking back to the insatiable curiosity of animals, I recall that in my more daring days in Caledonia I used to squander my wages—five shillings a week—in a species of speculative enterprise known as "banker." This was a chancy card game in which brains were no asset so, of course, I fitted in with the banker set very neatly.

The Speculative Instinct

After work in the summertime we usually hied to a nearby hayfield where, tramping down an adequate circular patch to accommodate all the players, we began our illicit ministrations. Meantime a small boy watched from the top of the dross bing for the farmer or the bobby, and received a penny an hour for this secret service work. He came down every hour to collect and just stayed long enough to lose his penny before again assuming his lookout post. At certain seasons of the year, lapwings by the dozens nested in these fields and if we happened to choose a site near a nest containing baby birds, the mother would flutter around our head just as if she were intensely interested in the game (she was actually trying to shoo us away). The German word for lapwing is kiebitz—from which, and very appropriately comes our word "kibitzer."

Alaskan Adventure

In 1943 I was up in northern Alberta, Canada and Alaska working on the notorious canal job which involved the development of an oil field in Norman Wells, just south of the Arctic Circle; the laying of a pipeline from there to Whitehorse and hence to Skagway; and the building of a refinery at Whitehorse. I was staying at what as nearly as I remember was called the Northern Lights Hotel, in Skagway where I had been sent on a special mission. There were lots of Americans up there at the time and after what had been a strenuous Saturday night, I was standing on a small bridge that crossed a mountain stream just outside the village. It was a beautiful sunshiny morning and I was gazing down at the water in a sort of reverie. Immediately beneath me was a small clear pool on which my eyes were fixed in a hypnotic stare.

Hangover?

Presently I was conscious of some movement at the bottom of this pool. I could see that it wasn't a fish and I had concluded it must be a water rat, many of which I had seen as a boy in Scotland, but it seemed to be darting about with a peculiar fluttering motion. All of a sudden while I was still engaged in silent debate, it rose to the surface and to my great astonishment flew off swiftly and vanished. At first I feared I had overdone my Saturday night cavortings and was suffering from hallucinations. With some misgivings I told the boys about it when I returned, badly shaken, to the hotel. They laughed at my fears and told me to have no further worries, the bird I had seen was a water ouzel and was quite common in these parts.

A new chemical additive for water to **permanently** de-activate the swelling of Bentonitic shales and clays. **D.A.B.** controls and limits the amount of water associated with clay swelling. Compatible with all acids and surfactants for the following uses:

1. Oil Well Stimulation and well washing.
2. **Inorganic or organic acid jobs.**
3. Wash — to remove swollen clays — to release water block.
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5. Completion fluid in conjunction with clay base or oil emulsion muds:
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The Water Ouzel

I later learned that this strange little bird which is no bigger than a wren belongs to a species known as cinclus aquaticus, and haunts mountain streams, particularly in the neighborhood of water falls. It is commonly called the dipper and despite its diminutive dimensions it dives down into the most turbulent waters, commonly at the base of a waterfall, and forages about on the river bottom searching for young snails, insects, and other organisms that constitute its daily diet. It advances under water by walking, fluttering its wings constantly to keep itself down, and can stay under for two or three minutes at a time. The female quite often builds its nest and rears its young on a rocky ledge behind the veil of a waterfall and we understand that water runs off a water ouzel's back like water off a duck's back.

And Bugs Too

There were three kinds of insects up in Alaska that gave the oil workers a bad time, notably mosquitoes, horse flies, and "no seeum bug." The mosquitoes were the biggest and most vicious I had ever seen and mind you I had lived in Canada for thirteen years and thought I knew all about them. Once at Fort Smith up on Great Slave Lake I was driving along in a pick-up truck with a friend when we saw a very pretty little cemetery that had in it a number of beautifully carved shrines. Naturally, we pulled up and went in to take a look, but the minute the gate clanged shut behind us, countless swarms of mosquitoes rose into the air and came at us in formation. These were the first mosquitoes I had ever seen equipped with pontoons and they were big enough to carry freight.

We Are Strafed

By the literal thousands the pesky things swooped down on me, zinging joyously in anticipation. They

Get whatever you want—when you want it—in

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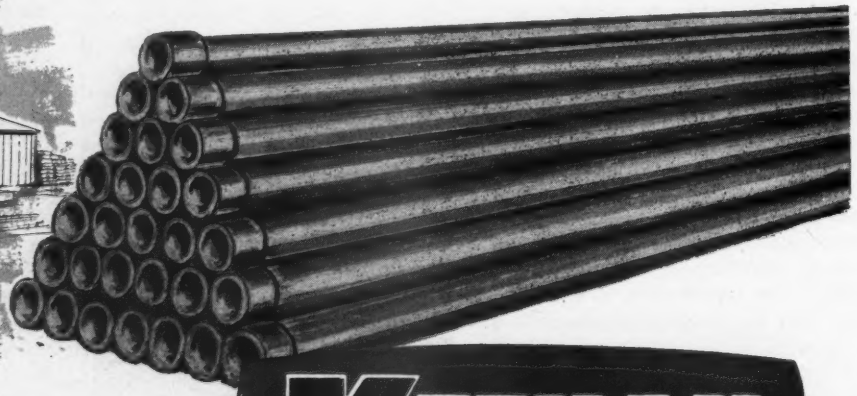
Oil Country Tubular Products

from KEENAN PIPE & SUPPLY CO.

In addition to maintaining a substantial inventory of National oil country tubular products, Keenan has available drilling bits, tool joints, drill pipe protectors, casing guides, casing shoes and collars, drill collars and allied products for the oil industry Among Keenan's many other prominent oil and industrial lines are Walworth Lubricated plug valves and other products, Ladish's complete line of carbon, stainless and alloy fittings, Consolidated relief valves, and Hancock forged steel valves



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plunged their suction needles deep into every exposed area of my tender anatomy and even reached obscure parts that were protected by several layers of fabric. I could almost hear them smack their nasty little lips as they drank greedily of the fresh tartan corpuscles. We didn't see much of that cemetery, I can assure you. By the end of the day my forehead felt like a relief map of the Rockies; I had vicious looking welts on my neck, arms, and ankles, and I was rapidly scratching myself into serious trouble. The next few nights were long sleepless sieges of almost unbearable torture that could not possibly be described without resort to profanity, so I shall simply have to forego further discussion. The horse flies were simply oversize bluebottle flies that came at you with heads down like football tackles and when they hit, if you were not well braced, they could quite easily reduce you to what Pat O'Malley used to call "a somnolent posture." The no-seeum bugs were given this name by the Indians because of their microscopic size. Their mode of attack is to burrow under one's skin and to raise a family; at the same time, needless to say, raising ned with the peace and tranquillity of the landlord.

Ladies in Distress

This series of disjointed reminiscences began with a coincidence involving tankers and is going to end with a coincidence involving people. I have told it before but it is so amusing, it is very definitely worthy of taking a permanent place in the historical records of the industry. The principal character in the tale is Elmer Decker, president and proprietor of the Martin-Decker Corporation, one of the founders of Nomads and of Petroleum Production Pioneers, and the author, indeed, of many projects and enterprises that have brought untold beneficences to the petroleum industry. Elmer was once bowling along in his limousine on a particularly lone section of the Lone Star State when he came across a carload of girls who had just acquired a flat and were obviously pretty sick about the whole thing. Being nothing if not a gentleman, Elmer pulled up behind the incapacitated car, took off his jacket, and in no time had the flat removed and the spare on in its place. He was just about to depart when one of the girls said, "That was awfully nice of you, sir, and we are all mighty grateful for your goodness. I see, by the way, that you have a California license on your car. Do you mind telling me who you are?" Either because of an innate modesty or an irrepressible kidding yen, Elmer replied, "Not at all—my name is Hans Ross!" The girl looked at him with a quiet smile and said, "Oh no it isn't. My father's name is Lawrence Baash and he's in partnership with Hans Ross." Wherein endeth another compendium of oleic miscellany that is not really a basic part of petroleum history but is the sort of condiment that can add distinct savor to its telling.

Statement by Minor S. Jameson, Jr., Executive Vice President, Independent Petroleum Association of America June 9, 1960, Washington, D.C.

Reports in the oil trade press of the intent by the Canadian government to purchase 60 million gallons of gasoline from Communist Russia are disturbing. This single purchase would represent the equivalent of almost 3 million barrels of crude oil.

The Oil Daily of June 7 reports from Ottawa that shipments of Russian petroleum products to Canada "may be made on a continuing basis," and states that Canadian government trade officials "are anxious to promote" these purchases from the Soviet Union.

It is obvious that large-scale Canadian purchases of Communist-controlled oil could severely undermine the mandatory oil import program in the United States, from which Canadian oil is exempt. This program is designed to assist in maintaining a healthy petroleum industry in the United States, and, as presently constituted, recognizes and treats the Canadian oil producing industry as a strategic source of petroleum for defense purposes.

Since our government has recognized the security value of Canadian oil, I assume and trust it will object to this intended purchase of Communist oil by Canada, as inconsistent with the exemption enjoyed by Canadian crude imports into this country.

Halliburton Plans New, Shorter Name

Halliburton Oil Well Cementing Company expects to have a new name soon. Adoption of the new name—Halliburton Company—is to be voted on at the forthcoming stockholders meeting June 28, 1960.

Halliburton executives say the abbreviated title will more accurately reflect the present nature of the company. When the company was organized in 1924, its only business was oil well cementing. Since then several other major services such as formation fracturing, chemical services, special tools, formation testing, pressure grouting, water well services and dump bailer services have been added. Also manufactured and purchased products related to these services are marketed by Halliburton.

In addition, Halliburton has found markets for some of its products and services in other industries. A special products division is now selling pneumatic handling systems, fluid density instruments, valves and other items originally developed for oil field use.

For these reasons, stockholders have been notified in a proxy statement, company management believes that the name should be shortened and that the reference to only one of the services offered by the company should be removed.

Formal approval is expected to be concluded June 28, at the company's annual meeting at Duncan; the new title, Halliburton Company, is then expected to be put in use within a few days.

Signal Subsidiary To Market in Europe

Signal Oil and Gas Company has formed a new foreign subsidiary, Signal Europe, to market crude oil and products throughout Europe, it was reported recently by Samuel B. Mosher, chairman of the board.

Claude Geismer has been named president of the new marketing firm, which is headquartered in Paris, France.

In making the announcement, Mosher stated:

"The formation of the new subsidiary based in Europe is a significant step in expanding Signal's sales of crude and products in the growing European market."

'62 COULD BE
THE YEAR
FOR YOU!

how to make
octanes come clean . . .

Most refiners these days are called upon to make relatively high-octane motor fuel to meet current market demands. But high octanes alone are not enough. Motorists also want gasoline that burns clean!

By means of new and improved processing techniques it is now possible to produce high-octane blending components that give you the kind of gasoline motorists want. In addition to high-octane rating, these components possess excellent combustion and performance characteristics especially tailored for modern high compression ratio engines.

In order to help refiners realize their maximum potential, UOP makes available the wide variety of processes described on the opposite page. UOP technical, economic and market specialists are also available to help you determine which will best meet your existing and future needs. Ask us for a preliminary proposal, at no obligation.

INFORMED OPINION indicates that 1962 will require a substantial increase in process capacity . . . NOW is the time to start your planning!

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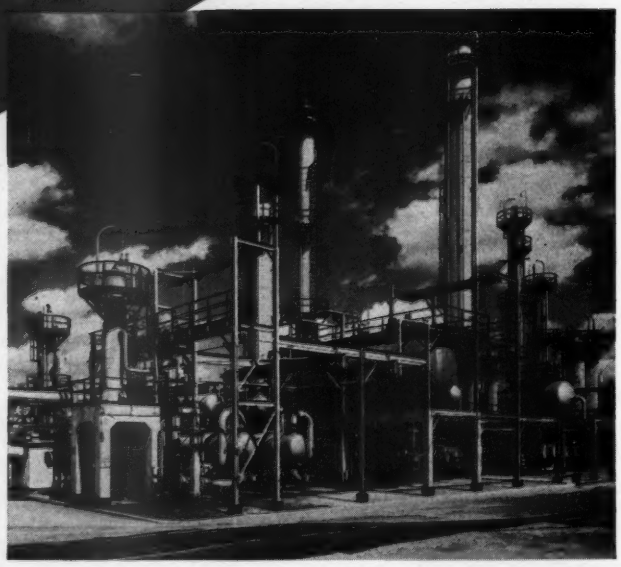
"HF" ALKYLATION

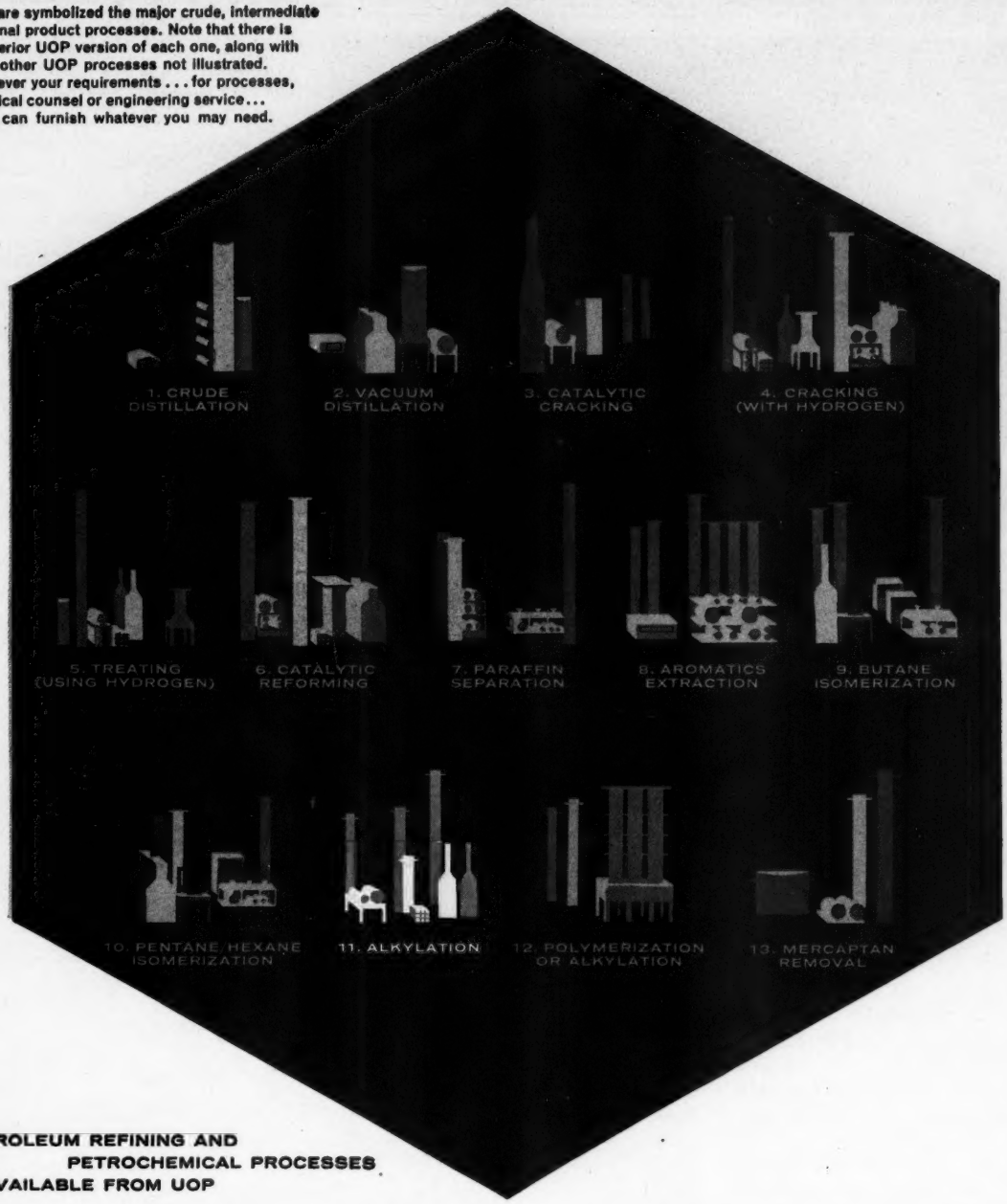
Here is a catalytic process that enables the refiner to produce an isoparaffin fuel component that burns with a minimum of carbon deposit . . . greatly reduces surface ignition and consequent rumble . . . is ideally suited to today's high compression auto engine.

Developed and licensed by UOP, "HF" Alkylation combines olefins such as propylenes, butylenes and amylenes with isoparaffin, usually isobutane. The component thus formed, alkylate, is a mixture of branch chain hydrocarbons of higher molecular weight. It is widely used in producing high octane aviation gasoline, as well as an anti-rumble component in motor fuel.

An ideal companion process to "HF" Alkylation is the UOP Butamer™ process for producing isobutane.



Here are symbolized the major crude, intermediate and final product processes. Note that there is a superior UOP version of each one, along with eight other UOP processes not illustrated. Whatever your requirements . . . for processes, technical counsel or engineering service . . . UOP can furnish whatever you may need.



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1. CRUDE DISTILLATION equipment is designed and engineered by UOP in any desired capacity.

2. VACUUM DISTILLATION and **VISBREAKING**—easy-to-operate processes for preparation of feed stocks for catalytic cracking.

3. FLUID CATALYTIC CRACKING—an improved process that gives higher yields, higher octane numbers.

4. LOMAX™—highly flexible process that converts middle distillates and vacuum gas oils into gasolines and distillate fuels of outstanding quality.

5. UNIFINING™—a modern process that completely purifies petroleum distillates.

6. PLATFORMING® produces high octane gasolines, high purity aromatics.

7. MOLEX™—a new continuous separating process that removes lowest-grade hydrocarbons from gasoline.

8. UDEX®—the ideal process for separation of super-purity aromatics.

9. BUTAMER™—a new and practical process for producing isobutane.

10. PENEX®—a new process that converts light, normal paraffins to isoparaffins.

11. HF ALKYLATION—makes alkylate, top anti-rumble motor fuel. Sulfuric acid process also available.

12. CATALYTIC CONDENSATION—converts olefin fractions of refinery gases into high-quality gasoline and petrochemicals.

13. MEROX™—a new and inexpensive treating process to remove mercaptans from gasolines and light distillates.

PROCESSES NOT ILLUSTRATED:

REXFORMING®—the ideal process to insure your top octane position.

CATALYTIC DEHYDROGENATION—removes hydrogen from hydrocarbons to produce less-saturated hydrocarbons.

HYDEAL™—a new process for the hydrodealkylation of toluene or C_9 aromatics to produce benzene; may also be used for manufacturing phenol and naphthalene.

HYDRAR™—converts benzene to cyclohexane with excellent yields, achieves extreme high purity with Udex grade benzene.

OLEFIN EXTRACTION—efficiently separates olefins and diolefins from paraffins; prepares olefins for further conversion.

AROSORB™—removes heavier aromatics from synthetic and natural distillates, produces aromatic-free heavier distillates.

ALKAR™—produces ethylbenzene, cumene and other alkylated aromatics from Fluid Cat Cracker off-gas streams.

UNISOL®—an economical process for treating high mercaptan-containing gasolines.

TWO NEW ASSOCIATE MEMBERS inducted into the Los Angeles Chapter of Nomads on June 8, 1960 are shown standing between Lee Laird of Ladish Company, ritual master (left) and Chili Sutton of Oil Well Mfg. Company, assistant. The new members are (left) H. T. Oliphant of Hughes Tool Company and Gene Madsen of Smith Tool Company.

Geological Forum Meeting

Two speakers addressed the evening forum meeting of the Pacific Section, A. A. P. G. Victor Vacquier, Scripps Institution of Oceanography, discussed "700 Mile Left-Lateral Displacement on Mendocino Fault" and Bernardo Grossling, California Research Corporation explained "Discussion of Continental Drift."

The forum was held Monday, June 20, at 7:00 P.M. in the Union Oil Company Auditorium, Union Oil Center.

George L. Parkhurst, Addressed D. & D. of S. F.

George L. Parkhurst, vice president (Middle East) and director of Standard Oil Company of California, and a member of the group of businessmen from the Bay Area who visited Russia last fall, was guest speaker at the monthly dinner meeting of the Desk and Derrick Club of San Francisco on June 6 at Torino's.

Parkhurst, a director and member of the executive committee of the Arabian American Oil Company and of the Trans-Arabian Pipe Line Company, is also chairman of the Iran California Oil Company.

Prior to World War II, Mr. Parkhurst was a Major in the Chemical Warfare Reserve but his wartime duties took him to Washington as Assistant Director of Refining and Contract Executive in the Petroleum Administration for War.

Engine Congress Announced

A meeting of the International Congress on Combustion Engines (usually abbreviated CIMAC from the French translation) will be held at Copenhagen, Denmark, in June, 1962.

The Theme of the Congress will be: "Recent Developments with Diesel Engines and Gas Turbines Above 3000 Horse Power and with Gas Engines Above 1500 Horse Power."

Dr. Behr Speaker At S. E. G. Luncheon

Dr. Michael I. Behr reported on "Results of a Refraction Survey in the Heletz-Negba Area, Israel" to the Pacific Coast Section, Society of Exploration Geophysicists, at a luncheon meeting June 9 at Rodger Young Auditorium.

Dr. Behr is a graduate of Weizman Institute of Science in Israel. He is currently a fellow in geophysics at California Institute of Technology.

The 1958 refraction survey he described was interpreted through integration of surface geology, gravity studies, electric logs and velocity surveys in the area.

Mrs. Frances M. King, newly elected president of Desk and Derrick Club of Los Angeles, was installed June 21, at the regular monthly meeting at the Biltmore Hotel.

Mrs. King's Board includes: Left to right (front row) Miss Ruth Garrahan, Mobil Oil Company, treasurer; Mrs. Nancy E. Poynor, Gilliland Oil Company, first vice president; Mrs. King, Power Rig & Equipment Company, Inc.; Mrs. Zetta Belle Gregg, Independent Oil Prod. Agy., second vice pres.; Miss Mary Gist, Ehrhart & Associates, Inc.; recording secretary; (back row) Miss Bonnie Baldwin, Humble Oil & Refg. Co., corresponding secretary; Miss Ann Delporte, Pathfinder Petroleum Co., director; Mrs. Muriel Oakland, Continental-Emsco Co., director; Miss Louise H. Schock, Shell Oil Company, immediate past president; Miss Effie J. Bleakley, California Bank, director.

Desk and Derrick Club of Los Angeles is celebrating its eleventh year and consists of over three hundred members.

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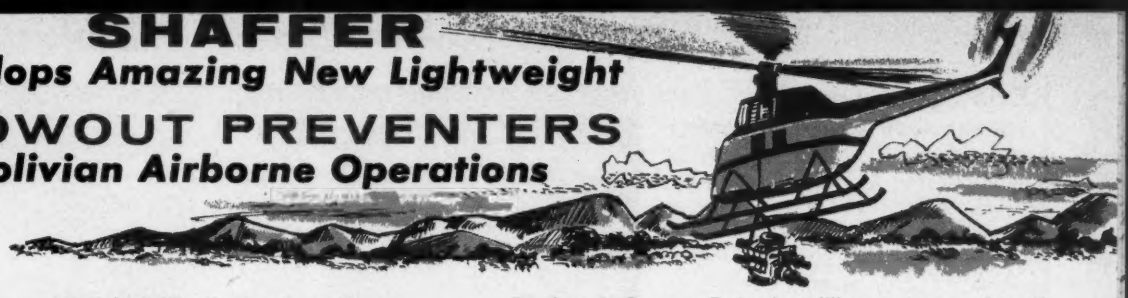
Develops Amazing New Lightweight
BLOWOUT PREVENTERS
for Bolivian Airborne Operations



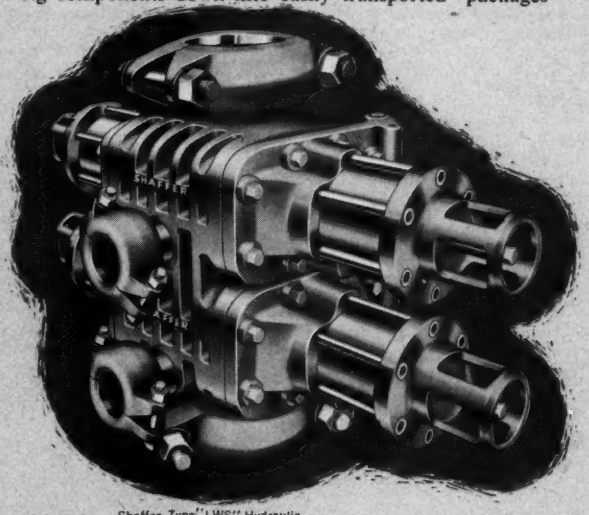
A joint venture of Bolivia California Petroleum Company, a subsidiary of Standard Oil Company of California, and Compania Petrolera Boliviana Shell, Ltd., one of the Royal Dutch-Shell group of companies, formed to carry out an extensive exploration program in the interior of Bolivia, South America, has attracted widespread interest because of the unique manner in which the program is to be developed.

A complete drilling rig—especially-designed for *airborne* exploratory drilling operations—has been built for Loffland Brothers de Caracas, C. A., the drilling contractor who will supply personnel, rig, camp, transportation and construction facilities for the program.

The airborne nature of the operations was decided upon only after careful evaluations to determine the most efficient and economical method of reaching the proposed development area. Roads are virtually non-existent and the area is subject to seasonal flooding that further complicates operations.

Lightweight, Easily-Transported Units

Key to the airborne program has been breaking the normal rig components down into easily-transported "packages"



Shaffer Type "LWS" Hydraulic Double Blowout Preventer 6"—Series 1500

that weigh no more than 4000 pounds each (for helicopter transport) and are no larger than 8′ x 8′ x 28′ (for cargo plane handling).

To avoid complex assembly problems at the rig-site, it was decided that blowout prevention equipment should be transportable as a complete unit, if possible—an assignment that posed major difficulties because normally-used blowout preventers with the required pressure rating weigh some 5700 pounds per unit, well above the 4000-pound weight limitation.

It was Shaffer—already experienced in the field of lightweight pressure control equipment through development of its Type "LWS" Blowout Preventers—that came up with the solution...

▶ **A new 6"—Series 1500 Shaffer Type "LWS" *Double* Blowout Preventer unit with 7-1/16" Bore and 5000 PSI *Working* Pressure (10,000 PSI *Test* Pressure) that weighs only *2610* pounds, complete!**

This Preventer has all the features and pressure-handling abilities of equipment weighing over 5700 pounds—yet weighs *less than half as much!*

▶ **Another Shaffer Type "LWS" *Single* Blowout Preventer developed for this project (a 10"—Series 900 Gate) has an 11" Bore, a 3000 PSI *Working* Pressure (6000 PSI *Test* Pressure)—all with a *total* weight of *2100* pounds (compared with the almost 4000 pound weight of comparable equipment heretofore available)!**

Full Range of Features

These new Shaffer developments are, in no sense, "stripped down" versions of heavier equipment. They are a continuation of the Shaffer program of developing lightweight, high-pressure Blowout Preventers and include all the well-known Shaffer advancements such as **"Swinging END-Opening" Doors** for quick, easy ram changes... **Positive "In-Line" Ram and Piston Design** that eliminates yokes, levers and other complicated assemblies... **Completely Enclosed Design** with no exposed operating parts... *and many other features found only in Shaffer Preventers.*

Important
Transportation Savings!

If your drilling operations involve considerable transportation of equipment, it will pay you to investigate these new Shaffer Type "LWS" Preventers for *your* operations. In many cases, savings in transportation cost *alone* will more than pay the moderate cost of equipment!

See your nearest Shaffer representative for complete details on Shaffer's new Type "LWS" Preventers. Or write direct!

API Size	Bore	Working Pressure	Test Pressure	Weight, Complete
6"—Series 1500 "Double" Gate	7 1/16"	5,000 PSI	10,000 PSI	2,610 lbs.*
10"—Series 900 "Single" Gate	11"	3,000 PSI	6,000 PSI	2,100 lbs.**

***A 55% saving in weight, compared with normally-used equipment.**
****A 48% saving in weight, compared with normally-used equipment.**

The new Shaffer Type "LWS" Preventers are available with Studded Flanges or Bolted Flanges... or with Hubs for Clamp-Ring Connections. They are also available with a wide selection of outlets!

37 YEARS OF OIL TOOL LEADERSHIP

SHAFFER

HIGH PRESSURE DRILLING AND CONTROL EQUIPMENT • FISHING TOOLS THAT EXCEL

CALIFORNIA SERVICE SHOPS: Santa Fe Springs, Santa Maria, Ventura, Avenal, Bakersfield and Taft
HOUSTON, TEXAS: 6006 Navigation Blvd • ODESSA, TEXAS: 1925 West Second Street
OKLAHOMA CITY, OKLAHOMA: Shaffer Tool Works, Post Office Box 546
FARMINGTON, NEW MEXICO: Shaffer Tool Works, Post Office Box 1788
CASPER, WYOMING: Shaffer Tool Works, Post Office Box 327
HOUMA, LOUISIANA: Shaffer Tool Works, 500 Fifth Avenue, New York, N.Y., U.S.A.
EXPORT SALES OFFICE: Shaffer Tool Works, 500 Fifth Avenue, New York, N.Y., U.S.A.
IN CANADA: Shaffer Western Hemisphere, Inc., 5823 103A Street, Edmonton, Alberta.

P.E.S.A. Convention

The Petroleum Equipment Suppliers Association brought its far-ranging committees into a central location for detailed reports, heard key oil industry spokesmen, elected new officers and appointed district chairmen—all at the association's 25th annual meeting in Banff, Alberta, Canada June 25-29. The sessions were held in the Banff Springs Hotel.

Activities of the past year were outlined by committee chairmen and also by H. R. Safford, Jr., executive vice president.

The afternoon session of June 27 was addressed by Alvin Hope of San Antonio, president of the Independent Petroleum Association of America.

Committee reports were heard from F. E. Bernsen, finance; Earl Enos, lien law; George C. Darr, radio communications; R. W. Rager, statistical research; W. S. Wilson, public relations; W. A. Wilson, market forecasting; R. E. White, export operations; President Wilson, executive committee; H. C. Wells, explosives transportation; and W. V. Traeger, labor relations.

At various times during the meeting, suppliers, service and manufacturing officials held separate sessions.

INTERNATIONAL GUESTS AND SPEAKER at the June 8, 1960 meeting of the Los Angeles Chapter of Nomads. From left to right (front row) L. J. Black of Mobil Oil Co. de Venezuela from Venezuela; Erle Hume of Caltex Pacific from Indonesia; Lt. Col. Harvey G. Wolfe, speaker; Hooshang Nikubonyad of National Iranian Oil Co. from Iran; Harvey G. Ratcliffe of Asiatic Petroleum Corp. from England; (back row) E. E. Lay of Qatar Petroleum Co. from Qatar; Calvin Parker of Santa Fe Drilling from Colombia; J. R. Baker of Baker Herramientos Petroleras from Mexico; Basil Rose of San Jacinto Oil Co. from Venezuela.

A.P.I. Abstracting Service

The Central Abstracting Service of the American Petroleum Institute will be expanded beginning January 1, provided sufficient interest is generated in the oil industry, Frank M. Porter, API president, has announced.

This expanded service would cover domestic and foreign patents as well as exploration and production scientific publications, domestic and foreign.

The Abstracting Service, since its establishment in 1954, has provided basic coverage on petroleum-refining literature. More than 140 sources from all over the world—in Russian, German, and French, as well as English—are regularly scanned. Over 12,000 pertinent abstracts are published annually in bulletin form for the current information of technical people in petroleum companies, and in the form of classified cards for library reference use. Machine indexing is under study.

If the plans for expanded coverage are justified by orders from oil companies, the API service will then issue three bulletins of abstracts each week.

The refining-patents service would involve abstracting about 5,000 U.S. patents and 9,000 foreign patents annually. The foreign countries to be covered include Australia, Belgium, Canada, France, Germany, Great Britain, Holland, Italy, Union of South Africa, U.S.S.R., and, eventually, Venezuela.

Exploration and production abstract-

Long Beach Desk and Derrick members at their recent hard hat contest depicting the theme "OIL AROUND THE WORLD." Standing from left to right: 1st place winner, Charlene Minick of Drilltrol; 3rd place winner, Evelyn Ordonneau—Oil Tool Corp.; Phyliss Dittman—Servco; President Marian Ramsaur—California Southern Oil Co. (not a contestant, but saying she is proud as a peacock of her girls); Ruth Muggli—Cook Testing; 2nd place winner, Donna Pryor—E. B. Hall and Co.; Mary Ann Hallisey—Petrolite Corp. Kneeling from left to right: Judy Dittman—BJ Service; Audrey Willard—Petrolane Gas Service; Winnifred Jackson—J. D. Rush Co.; Frances Holley—D. D. Dunlap Oil Co.; Joyce Kitchner—Petrolane Gas Service, and Rosie MacBride—Baker Oil Tools

ing would include both literature and patents. Over 600 sources would be scanned, and about 8,000 literature abstracts and 3,000 patent abstracts would be published in bulletin form and on classified cards. Published subject indexes would also be produced if desired by the industry.

Cost of the services would be paid by subscribers to the bulletins. The technical abstracts presently furnished on refining technology demonstrate that a prompt and regular abstracting service is worth the cost, Mr. Porter said. The success of the current abstracting service has stimulated the wide interest in expanded coverage, he noted.

Inquiries on the service should be directed to W. T. Gunn, American Petroleum Institute, 1271 Avenue of the Americas, New York 20, N.Y.

D. & D. of Long Beach Celebrates

Long Beach Desk and Derrick Club celebrated its 8th Birthday, when it held its regular monthly dinner meeting June 15, at the Petroleum Club.

Seated at head table were past presidents: Fran Walsh-1952 (Petrolite Corp.), Adelaide Erickson-1956 (Smith Tool Co.), Virginia Culver-1957 (Signal Oil & Gas Co.), Birtiemae Hook-1958 (K. L. Kellogg & Sons), and Leta Donkle-1959 (Wood-Callahan Oil Co.).

Guest speaker for the evening was Dr. Richard W. Stenzel, Technical Consultant for Petrolite Corporation. He chose as his topic "The World's Calorie Supply—How Much Fat Is Left For Us?"

Dr. Stenzel was born in Dresden, Germany. He is a graduate of Caltech and did graduate work at the University of Michigan. He has been a Consultant since 1947.

Oronite Chemical To Expand

Oronite Chemical Company, prompted by fast-growing chemical markets, will spend $3.4 million to more than double its capacity to produce polybutene, a petrochemical used in caulking compounds, electrical insulation, adhesives, rubber, special lubricants and many other products.

To meet the new demands, Oronite, a subsidiary of the Standard Oil Company of California, will build a new polybutene unit and will expand two existing plants at Standard of California's Richmond refinery. With the new capacity, which should be operative in 1961, Oronite will be the world's largest producer of polybutene.

A growing demand for polybutene in the lubricating oil additive field, report Oronite officials, is one of the major reasons for the expansion, though steadily increasing sales in other polybutene markets also helped prompt the move.

Output from the new and expanded units will be handled by Oronite's recently organized Industrial Chemicals sales division, which, in addition to polybutene, is responsible for sales of detergent raw materials, dispersants, xylenes, certain gas odorants and other miscellaneous Oronite products.

Adrian Fitzsimmons

McCook, Nebraska Site Of New Service Location

I. J. McCullough, president, McCullough Tool Company, has anounced the opening of a new District Service location in McCook, Nebraska.

Adrian Fitzsimmons, formerly of Sterling, Colorado, has been appointed district sales and service manager. McCook will be under the supervision of W. A. McCullough, division sales and service, manager, Mountain Division, Casper, Wyoming.

All McCullough electric wire line services will be available in the area on a 24 hour basis. McCullough Tool Company now provides electric wire line services from 74 district locations in the United States and Canada.

New Corporation Offers Services Worldwide

Dr. A. P. Beutel, president of Dowell Division of The Dow Chemical Company, and Pierre Schlumberger, president of Schlumberger Limited, recently announced the formation of a new company to be known as Dowell Schlumberger Corporation.

This new company will offer all Dowell services and Johnston Testers' drill stem testing in countries other than the United States and Canada.

This jointly owned corporation brings together the technical know-how of Dowell and Johnston Testers and the extensive international experience of Schlumberger in offering these services on a worldwide basis.

Schlumberger operates in more than 50 countries in the free world, providing electrical well logging, radioactivity well logging, perforating, and other completion services.

Dowell performs numerous oil well services, including cementing, acidizing, and formation fracturing. It has operations in the United States, Canada, Latin America, and Europe.

Dr. Beutel will serve as chairman of the board of directors of the new corporation. Other Dowell members of the board are A. C. Polk and L. B. Swan. Schlumberger directors will be Jean Riboud, Guy E. Baboin, and Gilbert Kerlin.

Guy E. Baboin will be president of the new corporation, L. B. Swan, vice president, and Tromer R. Smith, manager of operations. Headquarters are in London.

Texaco's Excellent Record

The Los Angeles Division of Texaco's Domestic Producing Department has been awarded two national safety awards for outstanding industrial safety achievement. These are the American Petroleum Institute's Accident Prevention Award plaque, symbolizing more than 2,000,000 man hours worked without a disabling accident, and the Texaco Producing Department's Safety Trophy, awarded annually to the division having the best safety record.

This is the second consecutive year that the Los Angeles Division has won the Company trophy, in competition with seven other Texaco divisions throughout the country. The 650 employes of the Los Angeles Division worked 2,193,000 man hours without a disabling injury in the period August 21, 1958 through February 27, 1960.

Personalities IN THE NEWS

E. Hearn Simpson

DuPont Petroleum Chemicals Div. Appoints Western Regional Mgr.

E. Hearn Simpson has been appointed Western regional manager for DuPont's Petroleum Chemicals Division, it was announced recently in Wilmington, Del. He succeeds **Robert F. Harwick** who died earlier this month.

Simpson started with DuPont in 1930, in the sales department of the "Fabrikoid" Division, Newburgh, New York.

Young Appointed Consultant by Dresser

Hugh A. Young, veteran electronics engineer and sales executive, has been appointed western engineering consultant by Southwestern Industrial Electronics Co., a Division of Dresser Industries, Inc. The appointment was announced recently by **R. O. Vaughan**, vice president, marketing.

Young, a graduate electrical engineer from the University of California, brings to SIE a vast background of experience gained with such outstanding companies as Motorola, DuMont Labs., and Packard Bell Electronics.

New Resident in Rio Vista Is Promoted by Halliburton

Bailey McDuff has been named field engineer for Halliburton Oil Well Cementing Co.'s district headquarters in Rio Vista. His last assignment was in Bakersfield where he served as an engineer trainee.

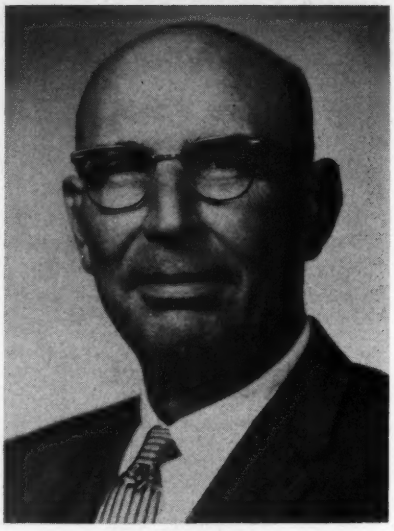
McDuff is from Chickasha, Oklahoma and a petroleum engineer graduate from Oklahoma University. He was first employed by Halliburton in 1955 while still a student and has worked for the firm during brief periods since that time.

Smith Tool Appoints Neilson Quality Control Manager

Appointment of **Bill Neilson** as quality control manager of Smith Tool Co. has been announced by **Ken Swart,** vice president-engineering.

Neilson was previously associated with Security Engineering Division, Dresser Industries, Inc. for 16 years. During the past 2 years he was operations manager of their Whittier plant and during the prior 4 years was chief product engineer. Neilson is a member of the Los Angeles chapter of A.I.M.E. and A.P.I.

Bill Neilson



Ben A. Hilliard, Jr.

Baash-Ross Appoints Hilliard Domestic Sales Manager

Ben A. Hilliard, Jr. has been appointed domestic sales manager of the Baash-Ross Division of Joy Manufacturing Company, according to **Robert A. Forsman,** director of sales and service for the Houston based firm.

Hilliard, who was Gulf Coast and export sales manager of the Web Wilson Company when it merged with Baash-Ross in February, 1960, will have his office at the Baash-Ross headquarters office in Houston. As domestic sales manager he will supervise the Baash-Ross domestic sales force and will work closely with supply store officials and sales personnel in promoting Baash-Ross products.

Joining the Byron Jackson sales force in 1935, Mr. Hilliard became Export Manager in 1942 and General Sales Manager in 1950. In 1954 he moved to Web Wilson as Division and Export Sales Manager.

He is a member of Nomads, Petroleum Club, Sigma Chi and the Petroleum Production Pioneers.

Several thousand success stories speak for Baker Retrievable Bridge Plugs and the men who run them...

PRODUCT NO. 677-C

Why a retrievable bridge plug in the first place? The reason was a compelling one – there was a need to save time and money on certain important operations *(see right)*.

So a few years ago, Baker developed a new kind of bridge plug. Today, several thousand successful jobs later, Baker Retrievable Bridge Plugs have proved themselves to the satisfaction of operators the world over.

There's a reason for this success. Baker engineers have just one business – and that is designing oilwell tools. Likewise, Baker Servicemen have but one business – and that is running Baker tools. These are the things Baker concentrates on.

Superior tools and professional tool specialists to run them – it's a hard combination to beat. That is why so many operators look to Baker for tools and service.

The Facts About Baker Retrievable Bridge Plugs

WHY RETRIEVABLE BRIDGE PLUGS?

Baker designed them to fill a need for bridge plugs that could be set or reset any number of times without coming out of the hole. Without retrievable plugs, drill-up time alone would be a formidable cost factor in certain operations *(see below)*.

HOW THEY WORK

1 A Baker Retrievable Bridge Plug is run in on the Baker Full Bore Cementer – or by itself on wire line or tubing. Large bypass valves let it run freely.

2 Operation is simple and positive. Once in the hole and released, it sets and packs off automatically – no rotation is required.

3 Packoff is dependable. Two packing cups and two opposed sets of rocker slips hold pressure from either direction. When pressure differential reverses, the packoff reverses automatically.

WHERE AND HOW THEY ARE USED

1 They do many jobs. They see the most action in fracturing, acidizing, and squeeze cementing operations where they are teamed with the Baker Full Bore Cementer.

2 These are the bridge plugs that made conventional straddle tools obsolete. A Baker Retrievable Bridge Plug and a Full Bore Cementer can straddle virtually unlimited distance.

3 Because these plugs are so easy to pick up and relocate, any number of zones can be tested and treated in one round trip.

4 They are also used alone wherever a temporary plug is required down-hole.

5 They are used to plug off just below surface to keep the well under control when working over or testing well head equipment.

6 They are kept available as emergency equipment for offshore wells.

ARE BAKER PLUGS SUPERIOR?

For one thing, Baker Retrievable Bridge Plugs have two sets of opposed rocker type slips. In Baker's opinion, a retrievable bridge plug needs this extra holding power. Moreover, the plug is self-setting. Setting requires neither rotation nor pulling. Note this, too: the bypass valves have no ports or slots to plug up with mud, sand, or junk. They are full-opening 360° valves. These bridge plugs are simple in design, and are simple to operate. That is why they adapt with easy flexibility to the performance of many important operations.

BAKER

RETRIEVABLE BRIDGE PLUGS

BAKER OIL TOOLS, INC.
HOUSTON
LOS ANGELES
NEW YORK

Leo R. Newfarmer

Shell Names Newfarmer to Head Exploration Department in Houston

Leo R. Newfarmer, exploration manager for Shell Oil Company's Pacific Coast Area, has been named head of a newly-created exploration department in Houston, it was announced recently by **S. F. Bowlby,** vice president.

The new department will work closely with the company's exploration and production research groups and will report directly to the head office exploration department in New York.

Newfarmer, who has headed the Pacific Coast Area's exploration activities since 1949, will assume his new position June 15.

A native of Montrose, Colorado, and a graduate of the University of California, Newfarmer joined Shell as a geologist at San Antonio in 1936.

Axelson Division Promotes Goin

Forrest Goin has recently been promoted to manager—special products department of the Axelson Division of U.S. Industries, Inc., Los Angeles. The announcement was made by **L. G. Evans,** vice president of the company.

In his new capacity, Goin will be responsible for the engineering recommendations, calculations and installations of multiple zone pumping equipment manufactured by the company. He will have under his direction two-zone specialists devoted exclusively to multiple completion efforts with several years experience. These men will be located in various parts of the country in areas where application for two-zone production may be found.

"Forrest Goin has had a wide range of experience in the production phase of the petroleum industry and in the last few years specialized in multiple completions. He is a recognized specialist in the field of multiple completions," according to Evans.

Henry C. Speel

H. C. Speel Joins UOP

Henry C. Speel, 30-year veteran of the chemical industry, has joined Universal Oil Products Company, **M. R. Schrein,** senior vice president, announced. Speel will have responsibility for market research activities of the chemical products development department.

Speel formerly was a partner in the chemical consulting firm of Schwarz, Speel and Associates. Before entering the consulting field, he was director of development for Wyandotte Chemicals Corporation.

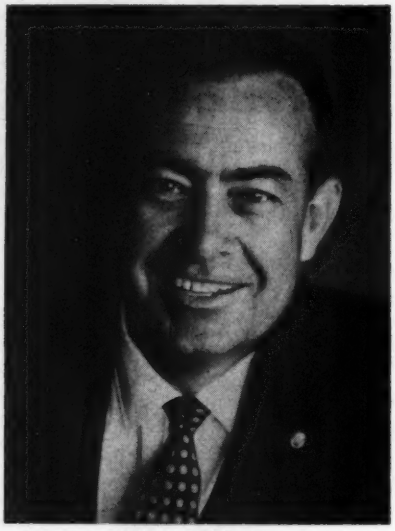
Speel has been associated with duPont's Ammonia Division, Atlas Powder Co., General Mills, Alrose Chemical Co. and General Aniline & Film Corp. in various research and development capacities. His consulting work has been conducted in a number of related fields, with particular emphasis on surfactants, textile auxiliaries, polyols, and petrochemicals.

Sidney A. Shuman Transferred to Pittsburgh as Assistant to President of National Supply

Sidney A. Shuman, general manager of the Fluid Packed Pump Co. Division of The National Supply Company, has been transferred to Pittsburgh as assistant to the president of National Supply. This is a new position.

Shuman began his oil field career in 1929 as a roustabout for Sinclair Oil & Gas Company. He joined the Fluid Packed Pump Company of Los Nietos, Calif., as a sales and service representative in 1936. Successively he was district sales manager in Louisiana, division sales manager in Oklahoma, and mid-continent manager headquartering in Tulsa, prior to becoming general sales manager in 1945.

He served as executive vice president from 1953 until the purchase of Fluid Packed by National Supply in 1959.



Richard W. Park

Republic Supply Appoints Park Southern Industrial Division Mgr.

Appointment of **Richard W. Park** as southern industrial division manager has been announced by President **John J. Pike** of The Republic Supply Company of California, major West Coast distributor of specialty metals, industrial and water works supplies, pipe and oil field equipment.

Park, who has been with Republic since 1937, has spent nineteen years in various management posts with the company.

John T. Doyle

Shell Oil Names Doyle Manager Of Gas Utilization Dept. in N. Y.

John T. Doyle, assistant to the vice president of Shell Oil Company's Pacific Coast Area, has been named manager of the company's gas utilization department in New York.

Doyle joined Shell in 1933 as an engineer trainee in San Francisco following his graduation from the University of Maryland.

He subsequently held engineering positions in Long Beach, Ventura and Bakersfield and in 1947 was named technical assistant to the executive vice president in San Francisco.

Doyle returned to Los Angeles later that year as assistant manager of the gas department and was promoted to manager of the department in 1952. He assumed his present position in 1958.

Welex Promotions

Welex, Inc., wireline service company with headquarters in Fort Worth, recently announced **James F. Russell** was promoted from sales engineer to district manager at La Habra.

Other recent changes made by Welex include: **D. J. McCabe** from logging operator to field engineer at La Habra; **Wayne Plumlee** from Ventura shooter to La Habra sales engineer; **B. M. Slater** from logging operator to field engineer at Pauls Valley; **Billy Crice** from sales engineer to assistant district manager at Bakersfield; **T. L. Hargis** from logging operator to field engineer at Alice, and **G. L. Slack** from engineer trainee to field engineer at Houma.

Pike Elected President Of Stanford Board

Thomas P. Pike, Los Angeles business executive was elected on June 16 as president of the Stanford University Board of Trustees for the coming year.

He succeeds David Packard of Palo Alto, who has served two consecutive one-year terms and who, in the words of Dr. Wallace Sterling, president of the University, "has given to the advancement of the University an extraordinary amount of his time and talent."

"In recognition of the heavy responsibilities carried by the president of the Board, it is expected that an increasing amount of these will be shared by the vice-presidents," Dr. Sterling said. "This expectation is in accord with the increased stature and complexity of the University and its activities."

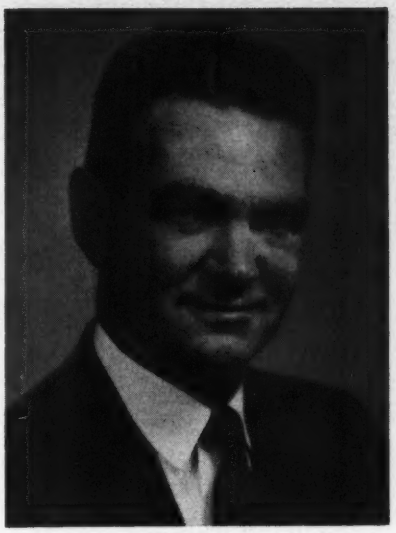
Pike is vice-chairman of the board of Republic Supply Company of California and executive vice-president and a director of National Engineering Science Company, both with head offices in Los Angeles.

A Stanford alumnus in the Class of '31 who served as student body president in his senior year, Pike was elected to the Stanford Board in 1957 and has been chairman of the Planning and Development Committee.

Hills-McCanna Co. Names Two to West Coast Sales Posts

Richard I. Allen, vice president, Hills-McCanna Company, Chicago, has announced the addition of two new men to the company's field sales staff to provide technical assistance to West Coast customers and stocking distributors. **R. D. Brown** has been named western regional manager, with offices at 110 South Euclid, Pasadena; and **William Loomis** has been named sales engineer with offices at 211 Joaquin Street, San Leandro.

Hills-McCanna Company manufactures ball valves, diaphragm valves, metering pumps, and aircraft-quality magnesium castings. The valve lines are handled through warehousing distributors throughout the Western States. Pumps and magnesium castings are sold direct.



G. A. Burton

Burton Named Exploration Mgr. For Pacific Coast Area by Shell

Gerald A. Burton has been named exploration manager for Shell Oil Company's Pacific Coast Area, it was annuonced recently by vice president **S. F. Bowlby.**

Burton, formerly exploration manager in New Orleans, will replace **Leo F. Newfarmer** who has been transferred to Houston.

In his new position Burton will be responsible for Shell's exploration program in an area that extends generally from Southern California north to Alaska and east to the western slopes of the Rocky Mountains.

Macwhyte Wire Rope Co. Appoints Assistant Pacific Coast Manager

Macwhyte Wire Rope Company has announced the appointment of **Russell F. Hendrick** as assistant Pacific Coast manager.

Hendrick has been associated for many years with the wire rope industry, both with a manufacturer and more recently conducting his own distributorship of wire rope and allied products. He has had extensive experience in the manufacture and distribution of wire rope and is well acquainted in the States, including Alaska and Hawaii.

He will now headquarter at the Company's offices in San Francisco, California, and will assist **Fred M. Sime,** Pacific Coast manager, in the thirteen Western and Pacific Coast states.

NEW LITERATURE

Proper Care and Handling Of Sucker Rods Described

A bulletin on Continental Sucker Rods with a complete listing of all rods, showing chemical analysis, mechanical properties, recommended maximum loads, and sizes and weights has been published by Continental-Emsco Company. Methods on extending the life of rods are included.

The 20-page bulletin describes proper handling and care of sucker rods from the manufacturing process at the plant to field service at the well. Another feature is a discussion of alloying elements, mechanical properties and heat-treating processes as they are related to sucker rods.

Also included is information on Continental sucker tubes, polished rods, sucker rod couplings, pony rods, and plant facilities.

Copies of this bulletin may be obtained from Continental-Emsco Company, P.O. Box 359, Dallas 21, Texas.

Tretolite Co. Brochure

Tretolite Company division of Petrolite Corporation has announced availability of a new 8-page brochure on KONTOL Corrosion Inhibitors for Petroleum Producers.

The booklet explains the application methods of KONTOL Corrosion Inhibitors to oil- and gas-well systems. Schematic drawings, graphs and photographs are used throughout the brochure to describe the product and its applications.

For further information or for a free copy of the new booklet the reader is invited to write to Tretolite Company division of Petrolite Corporation, 369 Marshall Avenue, St. Louis 19, Missouri, or to Tretolite Company of California, 5515 Telegraph Road, Los Angeles 22, California.

Petroleum Workshop For Teachers Held

Fifty junior college, high school and junior high schol teachers participated in a week-long oil industry teachers' workshop, June 20 through 24.

The session was devoted to a nontechnical presentation of the place of the petroleum industry in the Southern California economy, Felix Chappellet, vice president of WOGA said.

Member companies of the Association participated in providing teachers with information which aided them in their teaching careers.

"Our plan is to open the doors of our industry wide so teachers can step inside and take a good look," Chappellet added. "We believe that educators are interested in discovering the quiet efficiency with which our highly complex industry operates."

S. F. Bowlby, vice president of Shell Oil Co. and past president of Western Oil and Gas Association, addressed the teachers at Monday's June 20 opening session.

Free Gas Producers From F. P. C. Says Dan Jones

It is of paramount importance to consumers of natural gas that legislation be enacted at the earliest possible date to free the producer of Federal utility-type controls and thus assure consumers a continuing adequate supply, L. Dan Jones, Counsel, of the Independent Petroleum Association of America, said in Detroit recently.

In an address before the legal committee of the Interstate Oil Compact Commission Jones said, however, the existing law provides the Federal Power Commission with ample authority to protect natural gas consumers against any "unreasonable" producer prices.

He charged that the natural gas producing industry is in a state of chaos as a result of the application of the legal theory of "inclusion by exclusion."

He stated the U. S. Supreme Court applied this theory in arriving at its decision in the 1954 Phillips case which placed natural gas producers under the jurisdiction of the FPC even though "Congress was careful (in the 1938 Natural Gas Act) to make clear that the jurisdiction of the FPC was confined to the interstate activities involved. . . ."

The Natural Gas Act expressly provided that the jurisdiction of the Federal Power Commission "shall not apply to . . . the production or gathering of natural gas."

"The language was plain. The intent was clear. Despite this, in 1954, in the Phillips case, the Supreme Court ruled that this plain and clear language in the Act saying that 'it shall not apply' to the production or gathering of gas somehow meant that 'it does apply.'"

As a result of this combined "judicial and administrative legislation," he emphasized, it is vital, not only to the industry, but also to the natural gas consumers that legislation be enacted freeing the producers of natural gas from Federal Power Commission jurisdiction. "No other solution is possible," he said.

Nalco Symposium Held in Long Beach

Technical representatives of Nalco Chemical Co., Chicago, conducted a symposium in Long Beach June 7-8 for Southern California refinery personnel to discuss solutions to the growing problem of process-stream fouling in refining equipment.

Leading the discussions for the industrial chemical manufacturing company were Dr. R. C. Canapary, product manager—petroleum chemicals; J. D. Crawford, staff engineer—petroleum chemicals, and D. B. Boies, group leader of Nalco's petroleum research laboratory.

The symposium, moderated by Nalco Southern California district manager J. T. Nicholson, was held in the Petroleum Club of Long Beach. Among topics discussed were the part polymerization of unsaturated hydrocarbons plays in heat exchanger fouling; the influence of anti-fouling additives on catalysts used in desulfurization, reforming and catalytic cracking; problems encountered when inorganic materials, such as corrosion products, are present in feed stocks to systems where fouling takes place.

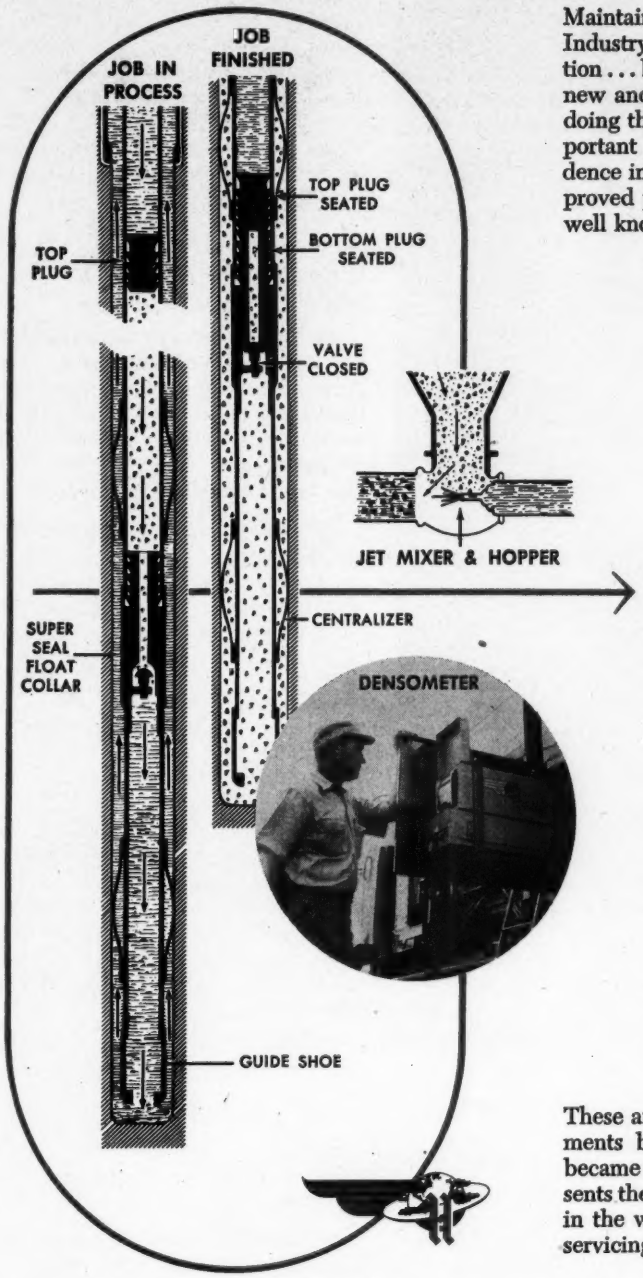
In Memoriam

FRASER M. COLE

Fraser M. Cole, vice president—western division of Honolulu Oil Corporation, died of a heart attack at Providence Hospital in Oakland on June 8, 1960, at the age of 62. Mr. Cole, who was born in Kalamazoo, Michigan, was employed by Honolulu Oil Corporation on September 16, 1936, as a Petroleum Engineer. On August 6, 1947, he was named Assistant to the Executive Vice President; and on April 17, 1951, he was elected to the office of Vice President. On July 14, 1958, Mr. Cole was appointed Manager of the Company's newly-created Western Division, and served as Vice President—Western Division since that date.

He is survived by his wife, Ruth, and his mother, Mrs. Gertrude M. Evers.

CONTINUITY OF ACCOMPLISHMENT



Maintaining leadership in the field of service to the Petroleum Industry depends not only on day-to-day customer satisfaction . . . but also on continuing development of new ideas . . . new and better equipment and products . . . better ways of doing things. By selecting Halliburton, the leader in this important field, the Petroleum Industry demonstrates a confidence in our ability to consistently produce *more* of the improved products and methods it has come to expect. Some well known examples of this ability are . . .

THE HALLIBURTON JET-TYPE MIXER revolutionized oil well cementing in the early 1920's by providing a means of continuous, hydraulically mixing and proportioning of cement on the job. The latest models capable of mixing a maximum of 50 sacks per minute with water-cement ratios ranging from 3½ gal. per sack upward are in service today all over the world.

THE HALLIBURTON TWO PLUG METHOD with a bottom 5 wiper rupturing diaphragm plug leading the cement slurry helps to provide a better primary cementing job by wiping the casing clean as it moves down the pipe . . . and a top 5 wiper solid plug following the cement down to the pressure-ruptured diaphragm bottom plug causes a shut-off of fluids being pumped into the casing. Landing of top plug lessens the possibility of further cement displacement and provides a better bond of cement around the bottom of the casing where it is required.

THE HALLIBURTON DENSOMETER provides a continuous reading of cement slurry density in pounds per gallon . . . density of a given sample is indicated within 10 seconds and data is permanently recorded on a visual strip chart. This new instrument is installed on Halliburton mobile cementing units for better control of cement slurry strength and pumpability characteristics as a means toward better primary cementing jobs.

These are only a few examples in the long line of developments begun nearly 40 years ago when Halliburton first became known in the oil fields. Today, Halliburton represents the largest, most efficient oil field servicing organization in the world . . . and the facilities of the entire Halliburton servicing team are as near as your telephone.

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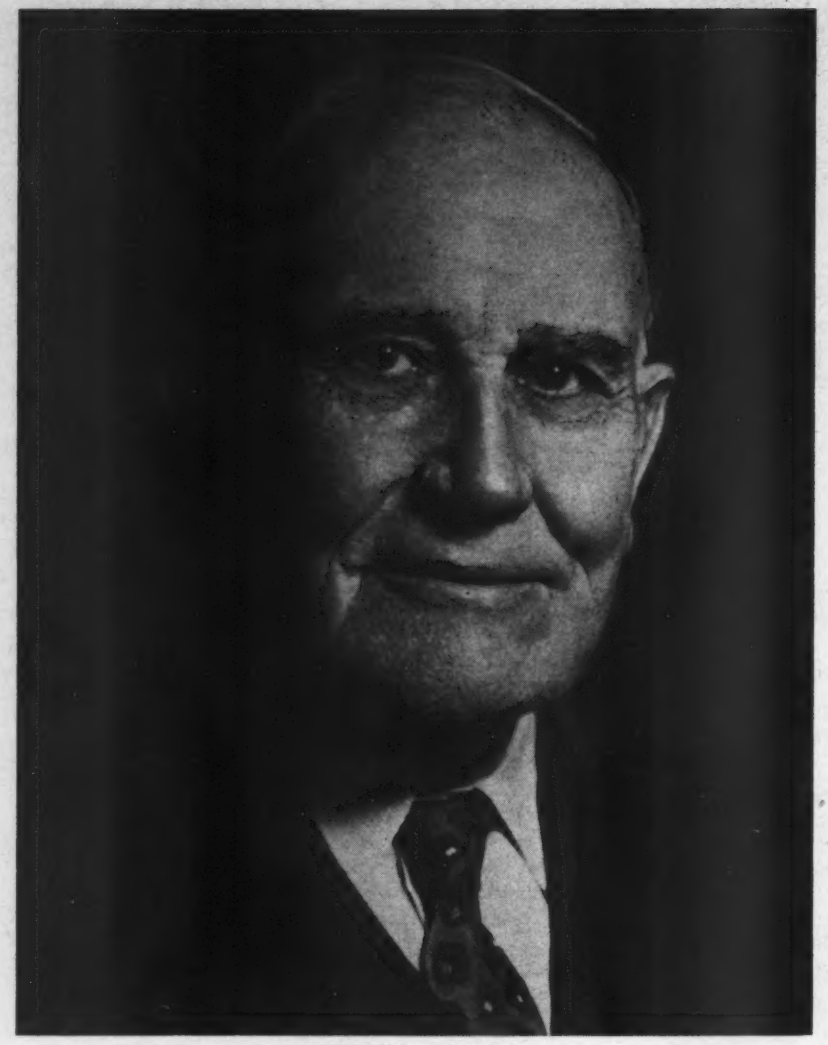
HALLIBURTON OIL WELL CEMENTING COMPANY — DUNCAN, OKLAHOMA



LEONARD P. ST. CLAIR

Leonard P. St. Clair, pioneer California oil man and a former president of Union Oil Company has passed away after a long illness. Mr. St. Clair was 89 years old.

Mr. St. Clair was born October 10, 1870, at Dutch Flat, Placer County, California.

Throughout his lifetime, he was a champion of the independent oil producer. He had been president of the Independent Oil Producers' Agency from its inception 56 years ago until his retirement in 1957.

His association with Union Oil Company began in 1909, as representative of the independent producers in the San Joaquin Valley.

He was elected a member of the Board of Directors of Union Oil Company on February 24, 1920. He became vice president November 27, 1922 and executive vice president June 24, 1929. He was elected president July 7, 1930 and became chairman of the board October 24, 1938, in which capacity he remained until retiring in 1939.

He also served on the Pacific Coast War Service Committee in 1917-18 and was a director of Chamber of Mines and Oil in 1932-33. He was a member of the board of directors of the Western Oil and Gas Association successor to the California Oil and Gas Association.

In July, 1940, he was elected Administrator for the Conservation Committee of California Oil Producers. He accepted this active work without compensation and continued in this office until June 18, 1942.

Funeral services were held June 24th.

Pallbearers were: Lester Stockman, Hugh Sill, James Curran, C. S. Wimpress, Leonard Ploeser, Warren South.

Honorary pallbearers were: S. F. Bowlby, R. G. Follis, Charles S. Jones, W. M. Keck, Sr., Honorable James M. McRoberts, Robert L. Minckler, Harold C. Morton, T. S. Petersen, A. C. Rubel, W. L. Stewart, Jr., Reese H. Taylor, Dudley Tower, Martin Weil, James T. Wood.

Rule 63 Effective July 1 In Los Angeles County

All major refiners of gasoline in Los Angeles County appear to be reducing the smog-forming potential of their gasoline on schedule to meet the requirements of a new law that becomes effective July 1, the Air Pollution Control District reported.

The new smog regulation, Rule 63, requires that all motor fuel sold in the County after July 1 come under a standard limit for smog potential, Bromine Number 30.

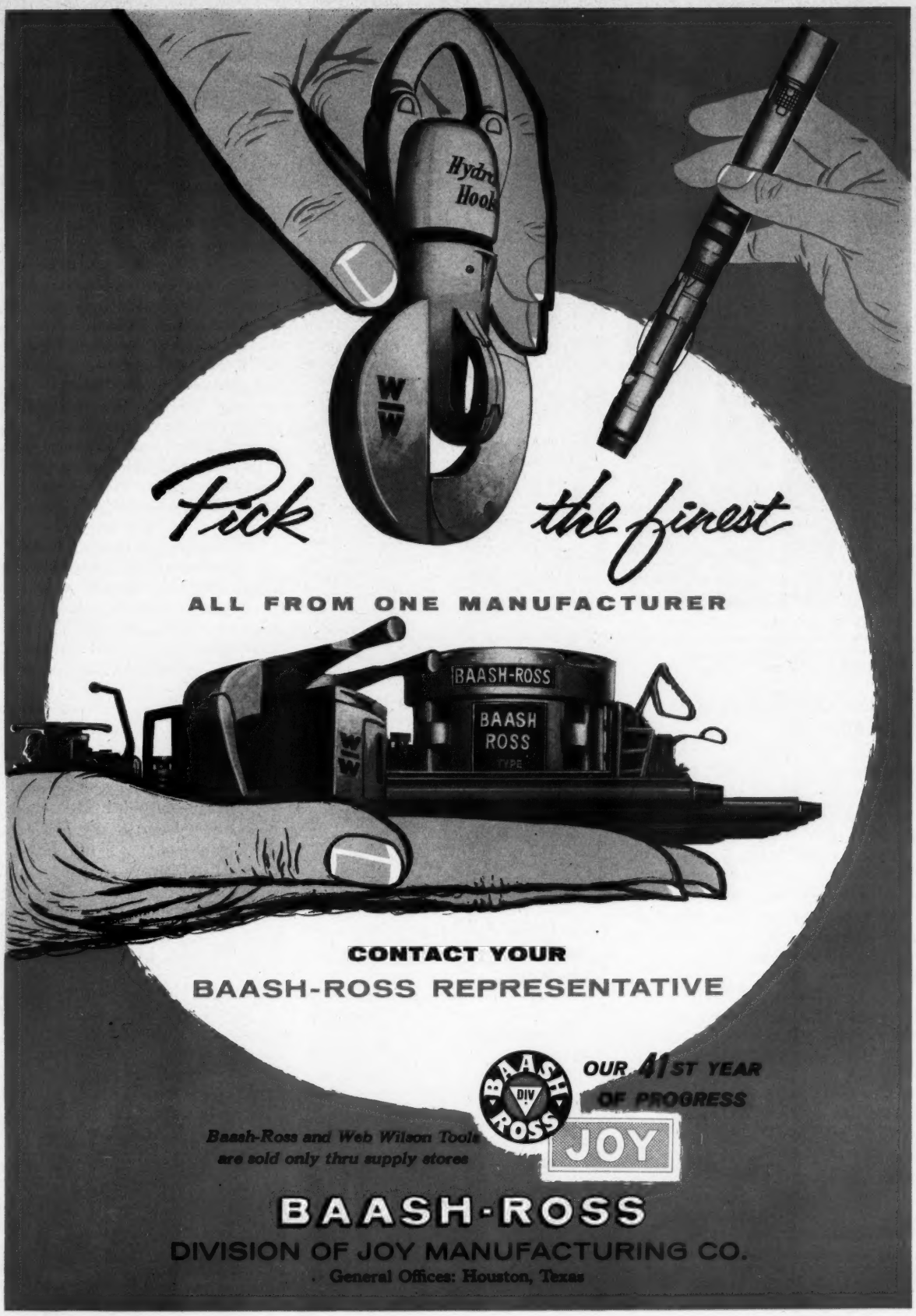
Over a period of months, refiners have been adjusting their production to conform with this rule. Eleven companies now have all of the grades they market below the Bromine 30 level. They are: Century Oil Company, Douglas Oil Company of California, Macmillan Petroleum Corp., Mohawk Refining Company, Newhall Refining Company, Richfield Oil Corporation, Seaside Oil Company, Shell Oil Company, Signal Oil Company, Standard Oil Company, and Tidewater Oil Company.

Of a total of 59 gasolines sampled during May, 35 already complied with the rule, and many others were within a few points of qualifying. Newhall Refining Company led the rankings, their regular grade showing a Bromine Number of 2.

A few minor companies appear to be marketing gasolines substantially in excess of the new standard, and may have dfficulty meeting the deadline, according to the APCD.

Rule 63 places the responsibility for compliance upon the retail vendor as well as the supplier, and stiff penalties may be invoked for violation.

All retail dealers in the County have received direct notification and a copy of the new law from the APCD.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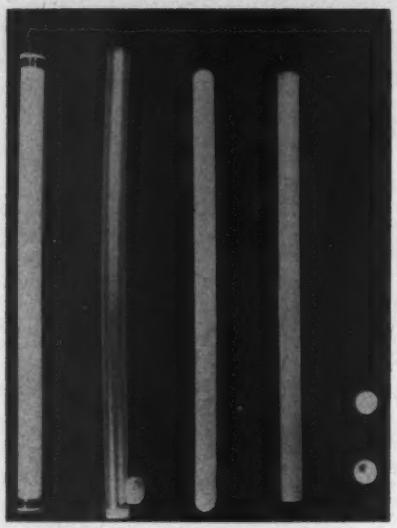
Equipment



SWABSTIX Flow Inducer components are (from left): unit package, outer polypropylene tube and caps, chemical unit, water-soluble tube and end caps.

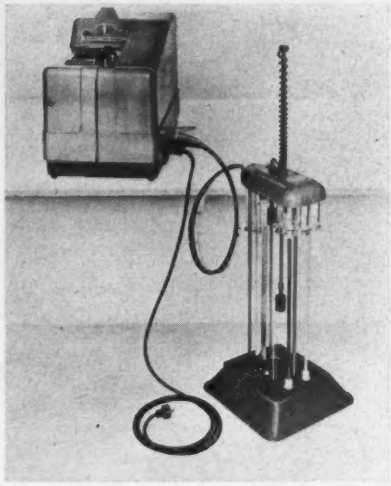
New Easy Swabbing Method By Tretolite Co.

A new chemical product that introduces an entirely new well-swabbing concept to provide a simple, easy and safe method of swabbing has been developed by Tretolite Company division of Petrolite Corporation.

Application of the new product—SWABSTIX Flow Inducers — is a one-man operation and consists merely of dropping the required number of units down the tubing. Each unit is 1¼" in diameter and 24" long. A wrench to gain access to the well tubing is all the equipment required. Where wells are not easily reached due to bad road conditions or water operations, the advantages of SWABSTIX are particularly outstanding over conventional swabbing techniques.

SWABSTIX are designed for use in wells that have ceased to flow because of the over balance of the fluid head when fluids accumulate in the tubing. This can happen during shut-in periods for acidizing, fracturing, inhibitor squeezing or workover operations.

Each SWABSTIX Flow Inducer unit consists of a water-soluble, oil-insoluble plastic cylinder filled with powdered chemical — highly reactive with water or brine. The oil-insoluble jacket permits the unit to fall through the petroleum phase with no affect on the water-soluble covering. After contact with the water or brine the jacket is penetrated in 30 minutes to one hour. The gas generated by each SWABSTIX unit is sufficient to displace approximately 500 feet of fluid in 2 inch tubing.



Graver Automatic Tape Analyzer

New Fluid Analyzer Can Measure Purity Of Petroleum Products

An automatic instrument that can detect trace quantities of insoluble solid impurities in liquids has been developed by Graver Water Conditioning Co., New York. The instrument can measure the purity of reflooding waters, waste waters, process liquids and power plant boiler feedwater and condensate. It potentially can be modified to sample air and gases and also to detect solubles.

Called the Graver Automatic Tape Analyzer, the device derives its versatility from the basic analyzing method it employes—the Millipore Filter test.

New Type Tank By B. S. & B.

POXYGLAS—a new type of corrosion-resistant tank—is now available from Black, Sivalls & Bryson, Inc., manufacturers of tanks and field processing equipment for the oil industry for more than 67 years.

A patented process, POXYGLAS is an epoxy resin-bonded, glass filament-wound tank that is particularly applicable in the storage of sour crudes, waterflood and salt water disposal processes, and for offshore and other areas where external corrosion is a problem.

POXYGLAS tanks are also light in weight and have high strength properties. They are available in sizes up to 12 feet in diameter—limited only by transportation restrictions — and competitive in price with similar size tanks of ¼-inch steel with protective coating.

The vessels are designed to operate at atmospheric pressure — and will stand up to an operating temperature of 250° F.

For more information, write to Black, Sivalls & Bryson, Inc., Product Information Department, 7500 East 12th Street, Kansas City 26, Missouri.

Battery of two 12' x 20' POXYGLAS tanks for the storage of corrosive oil.

New Sand Screen Uses Sand Face

A remarkable development in sand control methods—a screen with outer area covered with sand—is available now from Halliburton Oil Well Cementing Company.

The pre-formed screen, marketed as the Halliburton Sand Screen, is essentially an outer cylinder of sand, bonded together and held in place by thermoset resin, around standard perforated or slotted tubing.

This screen employs a sand face as the direct screening medium, without an outer covering of metal.

Because of this greater exposed surface flow area—several times as much as conventional liners — screening of formation sand is diffused over the screen's entire surface, rather than concentrating at restricted points of entry.

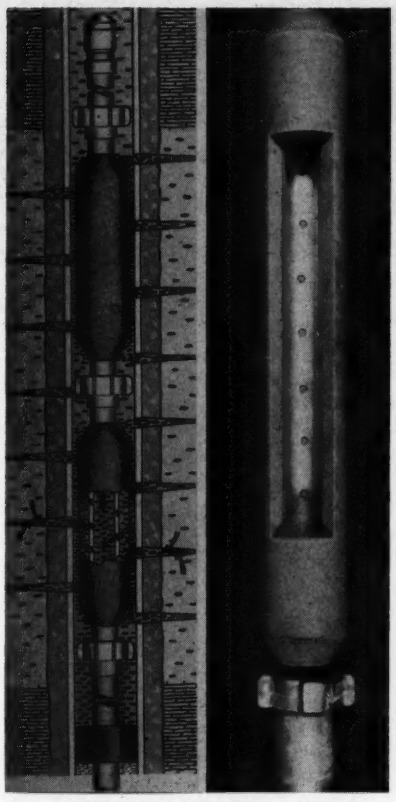
Actual sand is considered the ideal exclusion material because it acts as a natural buffer, is inert and compatible with producing formations.

Several years of experiments by Halliburton chemists and engineers preceded the introduction of the sand consolidation and bonding-to-pipe technique that made this type of screen possible. The consolidated sand mixture in the screens has a compressive strength in excess of 3000 psi, shear strength in excess of 800 psi and tensile strength in excess of 600 psi. Permeability of the consolidated sand is 23 darcies and porosity is 26 percent.

Halliburton Sand Screens are presently available in six-foot lengths and two sizes: 3.9 inch O.D. and 5.75 inch O.D. Each six-foot length is equipped with a centralizer and collar.

Selection of the sand sizes used in the regular screens followed a detailed study of 83 formation sands commonly encountered in Gulf Coast operations, where sanding conditions may be severe. A grade of Ottawa sand, 20-40 round, is used in the standard Halliburton Sand Screen because it offers optimum porosity and permeability with maximum screening effectiveness. A special mixture of sand sizes with more extreme size gradations is available if requested.

The six-foot length was selected after tabulating and plotting the thicknesses of 731 producing zones in the Louisiana and Texas coastal areas. One six-foot length will cover formations five feet and less in thickness; multiple lengths may be coupled for thicker formations.



NEW SAND SCREEN introduced by Halliburton Oil Well Cementing Co. employs a face of sand as the direct screening medium. From left: cutaway model of the screen; cross-section of consolidated sand bonded to tubing; and drawing showing installation.

Lunkenheimer Publishes Circular on New Union Bonnet Bronze Gate Valve

A four-page, two-color circular describing the new Union Bonnet Bronze Gate Valve, Fig. 3125, has been published by The Lunkenheimer Co. of Cincinnati, Ohio. Sectional views detail the features of a new bronze gate valve. Also included is a table of dimensions. Available in sizes ¼- to 2-inch, Fig. 3125 has a double wedge disc and rising stem and is rated 125 lb. S.P.—200 lb. W.O.G.

For copies of the new circular on Fig. 3125 Union Bonnet Bronze Gate Valve, write to The Lunkenheimer Company, Cincinnati 14, Ohio.

SIE CM-3 Computer

Southwestern Industrial Electronics Company (SIE), a Division of Dresser Industries, Inc., has completed development of its new CM-3 Analog Computer. Featuring all solid state electronics, the CM-3 provides continuous "real time" solutions for mathematical computations and "real time" control of variables in the chemical, petrochemical, refining and process industries. It will increase efficiency, product purity and overall profitability by eliminating human error in computation and/or adjustment of set points, and by optimizing control conditions.

Announce New Two-Way Efficiency Hauling Unit

On Monday, May 23, 1960, transportation history was made in the oil industry due to the combined efforts of the Fruehauf Trailer Company, Allyn Tank Line, Inc., of Los Angeles, and Kaiser Steel Corporation's Traffic Department. This day marked the first run of a regular 7 day, 24 hour route incorporating a Fruehauf combination tandem axle semi-tanker flat bed, to haul a 5,700 gallon payload of fuel oil from Watson, California, to Kaiser and a 46,000 pound backload of steel to distributors in Southern California.

Stan Roach of Allyn Tank Line originated the idea for this new two-way efficiency hauling unit.

"Investment-wise," Mr. Roach noted, "you have one rig to do the job of two. As for the shipper, he will realize savings due to our full payload on both in and outbound runs."

Fruehauf tanker flat bed trailer combination is shown with a backload of 46,000 pounds of steel after a delivery of 5,700 gallons of fuel oil. The Fruehauf trailer is employed by Allyn Tank Line, Inc., which hauls fuel oil to the Fontana mill of the Kaiser Steel Corporation and transports 46,000 pounds of steel products on return trips.

Field Development

Pacific Coast and "4" Corners

LOS ANGELES BASIN

Los Angeles Basin Discovery

The first oil discovery of major importance in the Los Angeles Basin since Universal Consolidated Oil Co.'s discovery of the Beverly Hills deep production on the 20th Century Fox property, was jointly announced by the Union Oil Company of Calif. and Signal Oil & Gas Company. On an 11-hour preliminary test the wildcat well, Union-Signal-Pacific Electric No. 3, flowed to portable vacuum tanks at a 1200 b/d rate of 37 gravity oil with a cut of less than one per cent, through a 26/64" bean. Located near the intersection of Pico Boulevard and La Brea Avenue, the well was drilled to a total depth of 6409 feet and cemented 7" casing at 5500 feet. The 7" casing was perforated at several spots within the interval 5350-5000 feet. Although the first two wells drilled, Union-Signal-P.E. No. 1 and No. 2, were not tested, electric logs run in the holes indicated both wells will be producers. 7" casing was cemented in both wells. Surrounding the discovery, approximately 7000 acres are under lease. These leases were signed by nearly 25,000 home owners before the drilling on the first well was commenced. Union Oil Company, as operator of the drilling venture, has a 60 per cent interest and Signal Oil & Gas Company has a 40 per cent interest. Derrick is being skidded to a Well No. 4 location which will be spudded immediately.

Farmers Market Test Redrills

Buttram Petroleum Corp.'s Gilmore No. 2 well encountered a fault after drilling to 3335 feet and was plugged back to 1300 feet to redrill directionally. The test is located near the intersection of Stanley Avenue and First Street in Section 21-1s-14w. Well No. 1 is standing shut in.

Sansinena Completion

Union Oil Company completed Sansinena No. 5B-94 flowing 507 b/d of 27.6 gravity oil with a cut of 0.4 per cent. Flow was through a 24/64" bean and gas was gauged at 361 mcf per day. Total depth of the well is 4700 feet with 7" casing, perforated at intervals from 2560-4700 feet, landed at 4700 feet and cemented through ports at 2552 feet. Surface location of the well is in the southeast quarter of Section 30-2s-10w.

Honor Rancho Completion

Texaco Inc. completed Honor Rancho A (NCT-1) No. 28 flowing 683 b/d of 35.2 gravity oil cutting 0.5 per cent with pressures of 300/825 psi and 800 mcf of gas per day. The completion was drilled to a total depth of 11,747 feet and cemented 7" casing at 10,606 feet. Cement was cleaned out to 10,500 feet and the 7" casing perforated at four intervals within 10,467-10,150 feet. The well is located in the northeast quarter of Section 7-4n-16w.

Castaic Junction Well Quits

Standard Oil Company's N. L. & F. No. 12-2 drilled to a total depth of 13,800 feet and after a test of the lower portion of the hole recovered salt water, the well was plugged and abandoned. The well was a northwesterly extension test of the field and was plugged in the northwest quarter of Section 13-4n-17w.

Brea-Olinda Field

Union Oil Company of Calif. has staked locations for two new field wells. Naranjal No. 53-2 is located in the northwest quarter of Section 2-3s-10w, and Naranjal No. 52-3 is in the northeast quarter of Section 3-3s-10w. Clyde Simpson has the contract to do the drilling.

NORTHERN CALIFORNIA

Occidental Sites Anticline Test

Occidental Petroleum Corp. has acquired ½ interest with McCulloch Oil Corp. of Calif. and Sunray Mid-Continent Oil Co. in approximately 17,000 acres (which will be checkerboarded in 160 acre blocks) in Townships 25n, 26n and 27n, Range 5W in Tehama County, approximately nine miles southwest of Red Bluff. They expect to drill several test wells, the first to be drilled in the immediate future will be located in the southeast quarter of Section 23-26n-5w.

Solano County Discovery

G. E. Kadane & Sons' new field discovery, Maine Prairie Gas Unit A No. 1, on a test of the perforated interval 6845-6831 feet flowed 3425 mcf of gas per day through a ¼" bean with 2250 psi flow pressure and was shut in. Located in the southwest quarter of Section 20-6n-2e, the discovery was drilled to a total depth of 7501 feet and cemented 5½" casing at 7000 feet.

Colusa County Test Abandoned

In the Maxwell area, Humble Oil & Refining Company abandoned its Wallace R. Lynn et al No. 1 after drilling to a total depth of 10,363 feet. Logs were run but no tests were made on the well located in the northeast quarter of Section 24-16n-3w.

Contra Costa County Test

Midway between the Los Medanos and Willow Pass Gas fields, Trico Oil & Gas Company is drilling below 3000 feet on Nevis Unit No. 2 located in the southwest quarter of Section 16-2s-16w. Gary Drilling Co. is drilling the 5500 foot test.

Solano County Gas Test

Amerada Petroleum Corp. drilled to a total depth of 7654 feet on W. E. Rayn Gas Unit No. 1 and after running an electric log cemented 5½" casing at 7125 feet. The well is located three miles northwest of the Maine Prairie Gas field in the southwest quarter of Section 18-6n-2e.

Glenn County Wildcat

Ambassador Oil Corp. of Fort Worth, Texas has awarded a contract to Brown Drilling Co. to drill Reimann No. 1 located in the northeast quarter

of Section 28-21n-3w. Southland Royalty Co. and Coast Exploration Co. are equally interested with Ambassador in the 6000 foot F-2 Cretaceous Sand test, approximately 3½ miles northwest of the Artois Gas area.

Two Vernalis Outposts

Porter Sesnon et al is moving in rotary to drill Sesnon-Hunter-Basolo No. 66-21, an outpost test of the Vernalis field. Located in the southeast quarter of Section 21-3s-6e, the well will be a 4100 foot test and is south and west of present production. Porter Sesnon et al and Great Basins Petroleum Company is grading roads and rig site for Sesnon-Vernalis No. 24-11 located in the northwest quarter of Section 11-3s-6e. Drill site for the 6500 foot test is ½ mile northeast of production.

Walnut Grove Field Test

Len Owens and Associates are preparing to spud Cummings Unit No. 1 located in the southwest quarter of Section 35-5n-4e in Sacramento County. The well is a field development well and will be drilled to about 4500 feet.

Humble Gas Test

Three miles northwest of the Dunnigan Hills gas production, Humble Oil & Refining Co. is grading rig site for Lillie M. Bemmerly No. 1, located in the center of the southeast quarter of Section 8-11n-1w in Yolo County.

Stratigraphic Test

Humble Oil & Refining Company drilled to a total depth of approximately 5700 feet and has abandoned Lyon Cattle Company No. 2. The well, a Stratigraphic test, was located in the northwest quarter of Section 26-26n-2w, four miles north of Tehama in Tehama County.

San Joaquin County Abandonment

Great Basins Petroleum Company's northwesterly outpost test of the McMullin Ranch Field, Picchi No. 66X-15, drilled to a total depth of 6495 feet and after running logs was plugged and abandoned. When the hole had been drilled to 6384 feet, an open hole test was made. Location of the well was in the southeast quarter of Section 15-2s-6e.

Rio Vista Gas Completion

Standard Oil Company of Calif. completed Rio Vista State No. H-10 as a dual completion flowing 3360 mcf of gas through a 5/16" bean with 1340 psi flow pressure from the Hamilton Zone perforations 5770-5755, 5726-5660 and 5623-5530 feet. Flow was from the Emigh Zone perforations 4280-4265 feet at 1180 mcf of gas per day through a 5/16" bean with 500 psi flow pressure. Located in the northeast quarter of Section 31-4n-4e, the well was drilled to a total depth of 5872 feet and cemented 7" casing at 5868 feet.

Santa Fe Drills Gridley Test

Santa Fe Drilling Company, Operator, after cementing 7" casing at 640 feet, is drilling below 1800 feet on Justeson No. 1, a Butte County test. The wildcat is located four miles northeast of the Wild Goose Gas field and will be a 4500 test.

Humboldt County Gas Discovery

On a test of the perforated interval 4810-4800 feet, Zephyr Oil Company's Leon Oro Blanco No. 1 flowed approximately 1000 mcf of gas per day through a 3/16" bean and was shut in. Flow pressure was 100 psi. The discovery, located three miles northwest of the Eureka Gas field in the southeast quarter of Section 6-3n-1w, was drilled to a total depth of 5652 feet and cemented 5½" casing on bottom. A second test, Leon Oro Blanco No. T-2 located in the southwest quarter of Section 6-3n-1w, is drilling below 1750 feet.

Solano County Deep Test

In the Cache Slough area, Standard Oil Company of Calif. has staked location for Peter Cook No. 12, a deep pool test, in the southwest quarter of Section 6-4n-3e.

North Winters Wildcat

Rinde Oil Company is grading location for Helen Chick No. 1, a 5000 foot Upper Cretaceous Sands test, in the northwest quarter of Section 23-9n-1w in Yolo County.

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COASTAL AREA

Three Texaco Completions

In the Bridge Area of the South Mountain field, Texaco Inc. completed three field wells. Norcop No. B-5 flowed 1549 b/d of 35.7 gravity oil cutting 0.8 per cent through a 27/64" bean with pressures of 1225/1025 psi and 1790 mcf of gas from the perforated intervals 9930-9860, 9450-9440 feet and 9135-8983 feet. The well is located in the northeast corner of Section 22-3n-21w and was drilled to a total depth of 10,625 feet. 7" casing is cemented at 9850 feet and a 4½" perforated liner hung at 10,624 feet. Texaco-Union-Hyde Pinkerton No. 5 located in the northwest quarter of Section 14-3n-21w was completed from a total depth of 7612 feet flowing 100 b/d of 34.0 gravity oil cutting 1.5 per cent. Flow was through a 24/64" bean with pressures of 875/1000 psi and 1993 mcf of gas. 7" casing is cemented at 7168 feet. Texaco-Union-Norcop No. 4 located in the southeast quarter of Section 15-3n-21w was good for 1415 b/d of 35.0 gravity oil with a cut of 0.3 per cent, flowing through a 30/64" bean with pressures of 925/2400 psi and 2125 mcf of gas. Total depth is 10,704 feet and 5½" casing is cemented at 9888 feet.

Fillmore Outpost Suspended

Standard Oil Company drilled to a total depth of 15,400 feet on Standard-Mobil-Arundell No. 4 and suspended the well. The test is 2000 feet northeast of production in the northwest quarter of Section 20-4n-19w.

Standard El Rio Test

Standard Oil Company is grading roads and rig site for Donlon No. 3, an outpost test, located in the southeast quarter of Section 22-2n-22w.

Santa Cruz County Test

Royal Petroleum Company of Fenton, Calif., is preparing to spud Hoffman No. 1 in the Boulder Creek area. Location of the wildcat test is in the northeast quarter of Section 10-9s-2w.

Ventura County Outpost Abandoned

Union Oil Company's Oakridge No. 60-2, an outpost test of the Oakridge field, drilled to a total depth of 11,036 feet and after running logs was plugged and abandoned. The well was located in the southeast quarter of Section 2-3n-18w.

Fillmore Area Completion

Texaco Inc. completed Fillmore Unit No. 1 flowing 931 b/d of 31.0 gravity oil cutting 12 per cent through a 28/64" bean with 1006 mcf of gas, from the Spaulding Zone perforations 14,321-14,329 feet and 14,335-95 feet. Located near the center of Section 19-4n-19w, the well was drilled to a total depth of 14,400 feet and has 7" casing cemented at 12,100 feet and a 5" liner landed on bottom. Texaco has staked location for Fillmore Unit No. 2, located 509 feet due south and 675 feet due west from the center of Section 19-4n-19w.

SAN JOAQUIN VALLEY

Belgian Anticline Completion

Shell Oil Company completed P.M.L. No. 48-14 flowing 570 b/d oil with a cut of 2 per cent through an 18/64" bean with pressures of 970/40 psi and 336 mcf of gas. Total depth of the completion is 6515 feet with 5½" casing cemented at 6272 feet and gun perforated from 6178-6120 feet. Location of the well is in the southwest quarter of Section 14-30s-21e.

South Maricopa Shallow Test

Pauley Petroleum, Inc. has awarded a contract to Barnes Core Drilling Co. to drill Bell-Potter No. 1 in the northeast quarter of Section 26-11n-24w. The well will be a 1000 foot test.

Kern County Outpost

In the Bellevue area, Verde Enterprises, Operator for Ancora Corp., is drilling below 2500 feet on Ancora-Humble No. 66X. Located in the southeast quarter of Section 34-29s-26e the well will be drilled to about 7600 feet.

Cuyama Valley Wildcat Test

R. K. Cross, Operator, of Long Beach is preparing to spud Chimeneas-Arnold No. 52-34 located in the northeast quarter of Section 34-31s-19e. The well will be a 9000 foot test and is approximately ten miles northwest of the Morales Canyon producing area of the Cuyama Valley.

Reserve Test Abandoned

In the Estrella area, San Luis Obispo County, Reserve Oil & Gas Company drilled to a total depth of 5200 feet on DeVries No. 37-25 and after running logs plugged and abandoned the well. Location of the test was in the southwest quarter of Section 25-25s-10e.

Midway-Sunset Outpost

V. P. Baker, Operator, is moving in rotary to drill Government No. 17 located in the southeast quarter of Section 24-31s-22e. The location falls about ¼ mile east from production.

North Tejon Well Deepening

Reserve Oil & Gas Company resumed operations on BW-T No. 334-20 and is deepening at 11,995 feet. The well was first completed from a depth of 11,827 feet flowing 56 b/d of 33.8 gravity clean oil. Location of the well is in the northwest quarter of Section 20-11n-19w.

Edison Wildcat Drilling

Harcourt Hastings is drilling below 1500 feet on Baughman No. 1 located in the northeast quarter of Section 8-30s-29e. The well, first announced with DiGiorgio, Bunting & Olson as operators, will be a 4000 foot test.

Panoche Area Wildcat

Herman C. Sommers of Arcadia is drilling below 1030 feet on Well No. 1-19 located near the center of the northeast quarter of Section 19-15s-11e. The area is about five miles north of the Griswold Canyon production in the Vallecitos field.

Fruitvale Outpost

Union Oil Company of Calif. is preparing to spud Conron-Rusk No. 18-8, a 6000 foot test, located in the southwest quarter of Section 8-29s-27e. The well will be the most northerly location yet drilled in the immediate area.

San Benito iCounty Test

In the Vallecitos field area, Shell Oil Company is grading roads and rig site for Briggs No. 32-36 located in the northwest quarter of Section 36-16s-10e.

Wheeler Ridge Completion

Richfield Oil Corp. completed KCL-L No. 74-35 pumping 140 b/d of 20.2 gravity oil with a cut of 4 per cent. Located in the southeast quarter of Section 35-11n-20w, the well was drilled to a total depth of 5730 feet and cemented 7" casing at 5620 feet.

FOR SALE

Drilling shallow wells in Kentucky's hottest county. Will sell 1/16th interest very reasonable. Best of references. Box 18, c/o California Oil World, 2404 W. 7th St., Los Angeles 57, California.

Trico Gas Test

Standard Oil Company of Calif. is grading rig site for Widgeon No. 7, a field development well, located in the northeast quarter of Section 1-25s-23e.

Kern County Outpost

One mile south of the Ten Section field, Richard S. Rheem, Operator, logged gray sand in the Stevens Zone and abandoned Rheem-Jorgensen-KCL No. 31-4. Located in the northwest quarter of Section 4-31s-26e, the test was drilled to a total depth of 8724 feet.

OTHER AREAS

Alaska

Paul G. Benedum, Operator, drilled to a total depth of 12,000 feet and after running logs abandoned Nulato Unit No. 1 located in the southwest quarter of Section 7-10s-2e.

In the Soldotna Creek area, Standard Oil Company of Calif. and Richfield Oil Corp. completed Doldotna Creek Unit No. 32-4 flowing 700 b/d of 35.0 gravity oil with a cut of one per cent through a restricted bean. The completion is located in the northeast quarter of Section 4-7n-9w and was drilled to a total depth of 11,119 feet. 5½" casing is cemented at 11,119 feet.

Halbouty Alaska Oil Company has completed work on the drill site for Halbouty Alaska Oil Co. No. 1 and Coastal Drilling Co. is preparing to move in rotary. Location of the test is in the southwest quarter of Section 21-6n-9w in the Soldotna Creek area, about ten miles south of Standard Oil Company and Richfield Oil Corp.'s Soldotna Creek discovery.

Richfield Oil Corp. is preparing to spud Kaliakh River Unit No. 2 located in the northwest quarter of Section 28-20s-14e, about five miles north and 18 miles west of the Yakataga Federal Aviation Agency Station.

Standard Oil Company of Calif. and Richfield Oil Corp. completed Swanson River Unit No. 14-27 flowing 700 b/d of 34.0 gravity oil with a cut of 0.8 per cent and was shut in. Located in the northwest quarter of Section 27-8n-9w on the Kenai Peninsula, the well was drilled to a total depth of 11,436 feet and cemented 5½" casing on bottom. Standard and Richfield are moving in rotary to drill Swanson River Unit No. 32-33 in the northwest quarter of Section 33-8n-9w. The location is ½ mile south and west of the recently completed well No. 14-27.

Arizona

Humble Oil and Refining Company is grading location for a wildcat test, Navajo No. 2, in the northeast quarter of Section 5-41n-28e. The well will be a 5600 foot Mississippian test and is in the East Boundary Buttes area of Apache County.

Roger A. Fields of Houston has announced a location for a northwest Arizona wildcat test to be drilled in the southwest quarter of Section 17-38n-7w. The well will be a 5200 foot test.

Colorado

Union Oil Company of Calif. has staked a location for San Miguel-Government No. 2, a western Colorado wildcat in the northeast quarter of Section 14-46n-14w, Montrose County. The well will be a 9500 foot Devonian test in an area where very little drilling has been done.

Delhi-Taylor Oil Company has graded a location for a Gunnison County wildcat in the southeast quarter of Section 17-12s-16w. The well, McLaughlin Government No. 1, will be a 3700 foot Mesaverde test.

Montana

Honolulu Oil Corp. abandoned its Yellowstone County wildcat, R. R. Bender No. 2-9, at a total depth of 6066 feet. Open hole tests of the Tensleep, topped at 6030 feet, recovered muddy water. Location of the well was in the southeast quarter of Section 2-4n-25e.

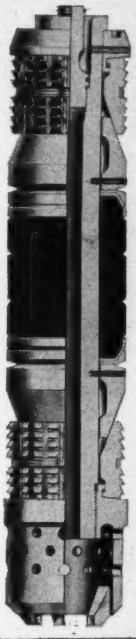
Sumatra Oil Company is running casing on Stensvad No. 2, its Musselshell County wildcat, after a successful drill stem test. On a test of the Tyler-B Sand from 4590-4604 feet, 500 feet of oil and gas-cut mud was recovered. Gravity of the oil is about 30 deg. The test was drilled to a total depth of 4663 feet and is three miles southwest of the Ivanhoe field in the northeast quarter of Section 35-11n-30e.

Nevada

In the Fallon area, Churchill Drilling Company's Churchill County wildcat, Stewart No. 1 in Section 10-18n-28e, is drilling below 1375 feet and the Company's Reggie No. 1 in Section 13-18n-28e is standing suspended at 6500 feet.

Trans-World Oil Company is drilling below 2115 feet on Houssels-Wilson-Milka-U.S. No. 1 located in Section 30-22s-63e. The test is being drilled with cable tools.

SHORT, COMPACT, LESS TO DRILL UP



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Available From All Electric Line Service Companies — Stocked at 247 Field Locations. Not only are Otis Wire Line Bridge Plugs available through any electric line service company, but stocks are maintained at 247 different field storage locations so that you can set an Otis plug whenever you need it—wherever you need it. And Otis bridge plugs can be set on any type of pressure setting tool. So the next time you need a bridge plug to prevent movement of fluid or gas from either direction in the casing, or to plug and abandon — play it safe — specify an Otis Wire Line Bridge Plug.

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North Dakota

Shell Oil Company and North Pacific Railway Company's deep test in McKenzie County, State No. 32-16-1e, has been plugged back to 9575 feet and is testing above the plug. Drill stem tests of the Mission Canyon and Silurian recovered water and some oil. Located in the northeast quarter of Section 16-145n-101w, the test was drilled to a total depth of 13,280 feet.

Texaco Inc. is drilling below 2500 feet on Government-M. Pace No. 1 located in the northwest quarter of Section 14-146n-101w. The test is six miles north of the Rough Rider field and will be a 9800 foot Madison test.

Hunt Oil Company completed Sam Olson Unit No. 4 flowing from three separate Duperow Zones with a combined total production of 960 b/d oil and 150 b/d water. The oil is 40.8 gravity. Flow from the interval 10,327-10,372 feet was 107 b/d oil and 35 b/d water and from 10,217-10,166 feet flow was 372 b/d oil and 35 b/d water. Located in the northeast quarter of Section 10-155n-96w in Williams County, the well was drilled to a total depth of 12,790 feet and logged the top of the Duperow at 9987 feet.

Wyoming

Davis Oil Company has a new Muddy discovery in O'Connor No. 1 located in the southeast quarter of Section 30-52n-69w, Campbell County. On a final pump gauge production was 295 b/d of clean oil from the perforated interval 5975-5989 and 6004-6014 feet. Drilled to a total depth of 6341 feet, the hole was plugged back to 6145 feet and cemented 5½" casing at 6133 feet.

Two new exploratory tests are being drilled in southwestern Wyoming, both in Unita County. Max Pray is drilling below 1500 foot on Government-Arkridge No. 1 located in Section 19-15n-112w. The well will be a Dakota test to be bottomed at about 13,300 feet. Mohawk Petroleum Corp. is drilling below 2000 feet on Mountaineer No. 1 located in the southeast quarter of Section 8-14n-115w. The test will go to the Wasatch at about 4300 feet.

Continental Oil Company has staked location for Unit No. 1 in the southeast quarter of Section 35-23n-94w in Sweetwater County. The well will be drilled to approximately 10,500 feet for a test of the Steele (Cretaceous) and is about 15 miles north of the Wamsutter Field.

THIS LAUGH OFF!!

The movie producer hadn't found the story that suited him for six years, and had reached a point where he was ready to listen to all comers. An unknown aspirant was ushered into his august presence one day. "They tell me you have a play," said the producer, with a reassuring wave of his hand. "Go ahead and read it to me."

This was more than the author had expected. Furthermore, he had been a victim of severe stuttering since he first learned to talk. The chance was too good to miss, however, so he sat down and read his whole play, scene by scene. When he had finished, the producer shouted for his secretary. "Sign this guy up at once," he cried. "He's got a new twist that'll have them rolling in the aisles. Every character in his play stutters."

After the three men had been assigned a room on the 30th floor, they went out to dinner. They were shocked to find, upon their return to the hotel, people sleeping in the lobby. The elevators were out, the clerk said.

To occupy their minds during the long climb they devised a plan whereby the first man would tell funny stories the first 10 flights; the second man would tell adventure tales the second 10 flights, and the third man would relate sad experiences the last 10.

With their laughter, the first 10 flights were easy. And the adventure yarns kept the second 10 from being unpleasant. At the 21st floor the third man was silent, and he didn't say anything at the 22nd floor either.

"Let's have those sad stories," he was urged.

"All right, I'll tell the saddest of all first," he said. "I forgot the key."

An evangelist recently announced that there are five hundred and seventy-two different sins. He received thousands of requests for the list from people who thought they were missing something.

Two drillers sat down to eat their lunch. One began to unwrap a package some 18 inches long.

"What's that?" asked the other.

"My wife's away," said the first, "so I made myself a pie."

"A bit long, ain't it?" his friend asked.

"Long? Sure, it's long. It's rhubarb."

"Why do you insist on keeping a parrot?"

"Because," answered the lonely man, "I like to hear it talk. The parrot is the only creature gifted with the power of speech that is content to repeat just what it hears without trying to make a good story of it."

"Why did you encourage your wife to give up the piano and start playing the clarinet?"

"She can't sing while playing the clarinet."

A youngster was saying his bedtime prayers in a low voice.

"I can't hear you," whispered his mother.

"I wasn't talking to you," was the firm reply.

Visitor: "I see you raise hogs almost exclusively here. Do you find they pay better than corn and potatoes?"

Hillbilly: "Wal, no. Yu see, stranger, hawgs don't require no hoein'."

Daughter: "But, mother, that was no new minister, that was a specialist from the city who examined you."

Grandma: "Oh, he was a doctor, was he? I thought he was a little familiar for a minister."

Sign on a New York church: "Come in and have your faith lifted."

Johnston Stainless Welding Rods

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DEEP, CARROT-FREE PENETRATION

HIGH WELL FLOW INDEX

The McCullough Mac-Jet is an all-new development in expendable jet perforating – designed to provide maximum perforating efficiency – to obtain highest production from thru-tubing and slim hole completions.

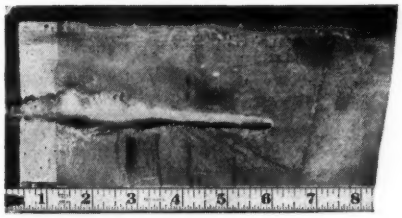
- Enclosed Firing System – Each Mac-Jet unit is self-contained, including jet charge and integrated firing system, enclosed in a frangible, high strength case. This design eliminates the use of exposed primacord. Units are securely locked together and may be fired from bottom up or from top down.
- Minimum Debris – Entire Mac-Jet Perforator breaks up into small bits when fired. Mac-Jet units, spacers and bottom firing assembly are all disintegrating to assure complete break-up.
- Superior Perforation Characteristics – "big gun" performance – penetration equal to or better than that of many larger jet casing guns. Carrot-free perforations, large deep holes, high well flow index.
- Size, Shot Density, Length – 1 11/16" OD and 2 1/16" OD Standard shot density is four per foot, 90° phasing.

ALL NEW McCULLOUGH *mac-jet*

Disintegrating spacers are supplied to provide fewer shots per foot when required. Any number of Mac-Jet units may be run in any length desired.

SPECIFICATIONS:

	1 11/16" OD	2 1/16" OD
Pressure, Temperature Rating	15,000 psi. @ 300°	13,500 psi. @ 300°
Maximum Temperature	350°	350°
Total Charge Weight	12 grams	20 grams
Av. Penetration (Berea Sandstone)	5.69"	7.45"
Av. Entrance Hole	13/32"	7/16"
Av. Well Flow Index	1.1+	1.44
Fill-up – 1' Gun, 5 1/2" Casing	1"	–
Fill-up – 1' Gun, 7" Casing	1/2"	1"



Standard Berea Sandstone target perforated by 1 11/16" OD Mac-Jet. Average penetration, 5.69"; average entrance hole size, 13/32; average well flow index, 1.1+.

DISINTEGRATING SPACER – Available in various lengths to provide fewer than four shots per foot. Disintegrates into small bits when perforator is fired.

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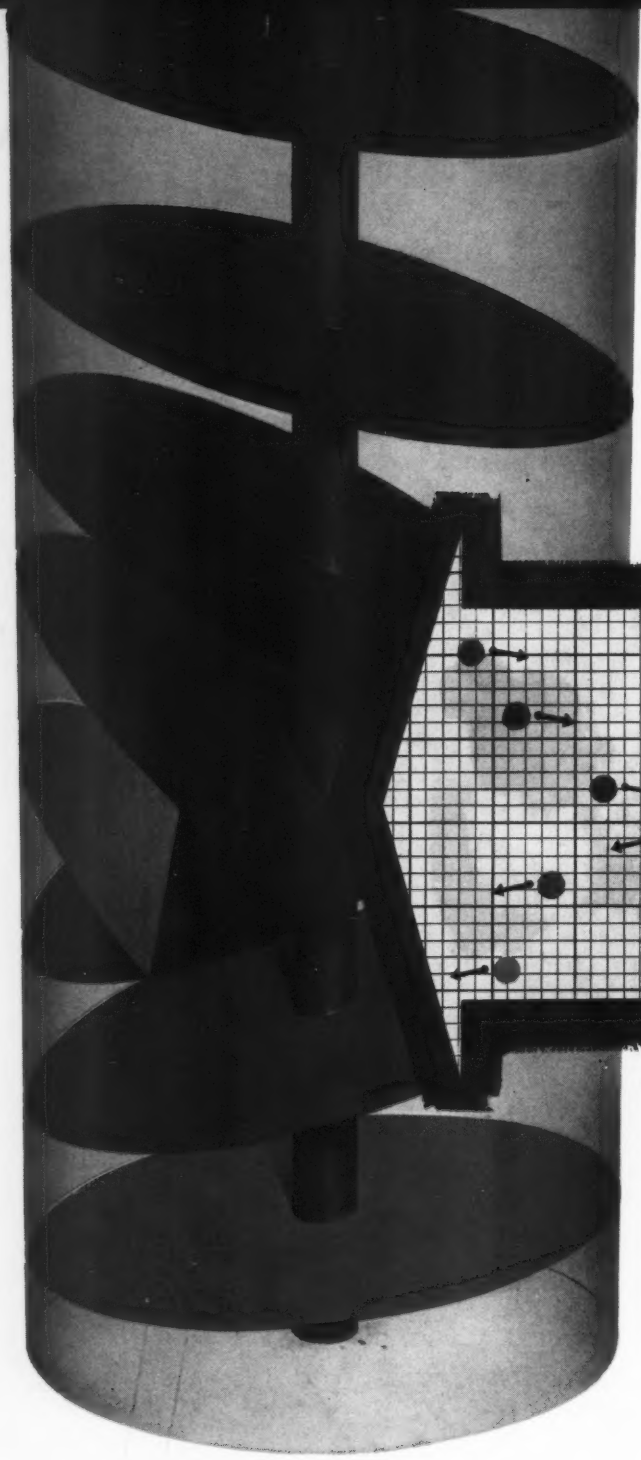
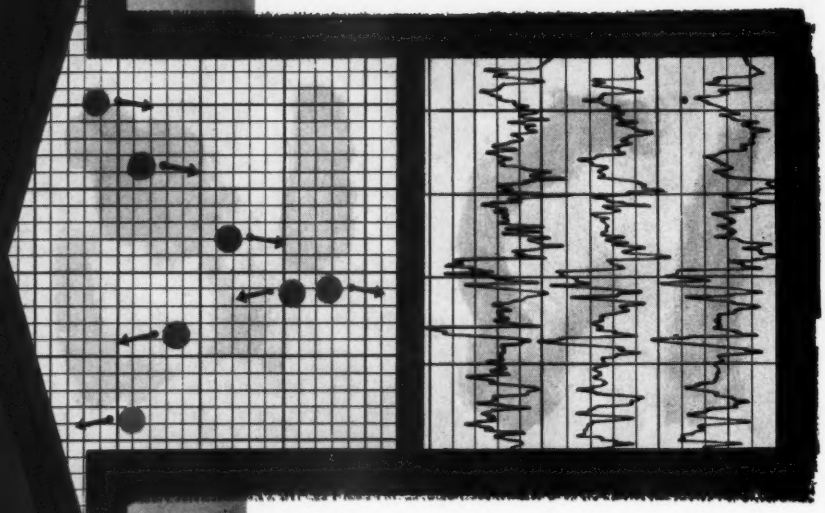


FAULTS • SALT OVERHANGS

UNCONFORMITIES • CROSS BEDDING

REGIONAL AND STRUCTURAL DIPS

BARS AND PINCHOUTS



the Schlumberger Continuous Dipmeter marks every geological feature!

Closely spaced dip calculations have clearly marked the fault on the graph above. Other structural or depositional features are likewise recognizable by their characteristic dip patterns.

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